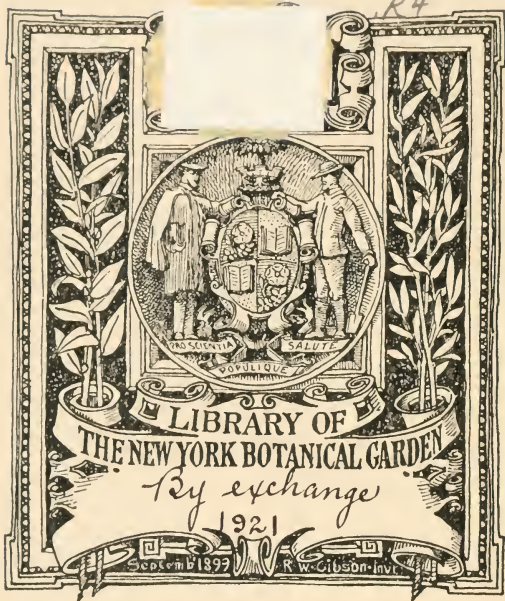


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IRISH GARDENING

A MONTHLY JOURNAL DEVOTED TO THE
ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

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Irish Gardening

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Copies of the above Leaflets can be obtained, FREE OF CHARGE and post free, on application to the Secretary, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion Street, Dublin. Letters of Application so addressed need not be stamped, and envelopes should be marked "Publications."

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EDITOR—J. W. BESANT.

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Agave americana variegata.

THIS "American Aloe" is in grand bloom in centre of the rock garden, San Elmo, Dalkey, Co. Dublin, the residence of Horace Law, Esq., M.D.

Its history is as follows: Nearly 60 years ago, a very small plant, it was given to a head

present prepared position, in October 1919. The plant stands about 3½ feet high, the flower stem about 12 feet, and the head bears sixteen flower clusters. It began to show signs of flowering in spring 1920, and this photo was taken 2nd October.



Photo by]

ROCK GARDEN AT SAN ELMO, DALKEY,
Residence of Horace Law, Esq., M.D.

[C. J. Richardson, Dalkey.

gardener in the suburbs of Dublin. With him it did well and migrated to San Elmo, Dalkey, and in time was promoted to a large pot and later on to a big box, standing for many years in the outside hall. The house becoming vacant, and the box being rotten, Aloe and box were carted into the stable yard, where they lay for seven years and where they were found by this new owner. He planted it in a bed in the open for one year, and on the rock garden being laid out, by aid of a pulley and tackle, it was hoisted by three men into its

In this very favoured locality, so near the sea, facing due South, overhanging Killiney Bay, and sheltered from all cold winds, many foreign and so-called tender plants grow finely in the open year after year.

On October 2nd, when this photo was taken, were to be seen blooming in this rock garden, amongst a large collection of plants, the following: Many *Andrietas* (which this year bloomed almost continuously), *Campanulas*, *Helianthemums*, *Iberis gibraltarica*, *Cyclamen* (white and pink), yellow

Evening Primrose, *Aster Thomsoni*, *Convolvulus cneorum* and *C. montaneus*, *Arnerias Plumbago* *Larpetia*, yellow and orange Rock Wall-flowers, Roses, many Dianthus, notably a splendid patch of *D. Nox*, hanging over a rock, making an attractive touch of colour, *Lithospermum prostratum* and the shrubby variety *Lithospermum rosmarinifolium* (which here blooms from 1st October to 1st May), masses of beautiful blue flowers for seven months continuously, *Potentilla fruticosa* and *Veronica cneosa* (purple), and *V. chamædrifolia* (scarlet creeper), *Cistus* *Sunset*, *Gazanias* (orange and white), *Mesembryanthemum edule* and others. Sedums, some *Primulas*, odd *Fuchsias*, *Zauschneria californica splendens*, *Yucca cornuta* (dark and light blue), the autumn-flowering *Crocus* showing in odd corners about the paths, *Veronica Autumn Glory*, *V. Gounthotti*, and others in good bloom, the collection of different *Veronics* in San Elmo is wonderful, many lovely colours, plants growing in huge masses all over the place.

Cinara maritima, seeding itself every here and there, in crevices in the rock garden, on the walls and paths, etc its lovely silver foliage catches the eye. The parent plants grow in large patches on the rocks close to the sea one hundred feet below.

The berries and foliage (just turning red) of *Colanthea horizontalis*, and the berries of *C. Simonsii*, are very pleasing to the eye.

Alpine auriculas were this season rarely out of bloom. *Sax. nungessera* grows strongly at the foot of a large rock and flowers well, the foliage of some of the varieties turning a beautiful copper bronze in autumn. Good patches of mossy Saxifragas and the silver varieties promise plenty of flower next season. Creeping Phloxes, many colours, Irises, Yuccas, N.Z. Flax, Bamboos, Tritonias, Berberis, *Pyrus japonica*, *Cytisus*, *Lupinus* and the following annuals (just sown the first year to give colour to bare patches of rock). *Aleosca Warsceviczii compacta* (brilliant scarlet), *Linaria reticulata aurea* (purple and gold), *Phacelia campanularia* (blue), together with clumps of Shirley and Alpine poppies, help to brighten up the various corners and tops of rocks.

Amongst the dwarf Conifers one notes *Abies Kosteri repens* (a creeping fir), *Cupressus Lawsoniana tamariscifolia*, *Juniperus hibernica* (tall pillar-like growth), *Retinospora obtusa nana* and *squarrosa sulphurea*, *Juniperus prostrata*, *Abies excelsa Maxwellii*, all evidently quite at home, giving some idea of the success attending the planting of this rock garden in this very mild climate, exactly one year ago.

R. C. M.M. S.

Rock Gardens and Rock Plants.

DESPITE the many trials which beset us in these troubled times there seems no diminution in the love of gardening, and more than ever rock gardens, large and small, are springing into being everywhere.

This fascinating and, we may say, educative hobby has seized upon rich and poor alike, and the cottage vies with the mansion in having the finest collection or the best grown specimens. No kind of gardening calls for more thought or ingenuity in providing the right conditions for the innumerable subjects which can be grown with the necessary care; and each one can choose his own plants and can use them for his own special purpose. Some prefer broad effects with brilliantly coloured, easily grown plants, such as

white, crimson, pink, mossy Saxifragas; purple and mauve Aubrietias; white and pink Arabis; yellow Alyssum, and so creating drifts of colour wonderful for a time. Others prefer a collection embracing everything that is choice, rare, and oftentimes difficult to grow, and from one year's end to the other are planning and contriving to find room for more, and seeking ever and anon for new sites in which to try some nifty subject, be it *Primula Beedii*, *Eritrichium nanum*, or perchance some longed-for Gentian; and therein lies half the charm of gardening—the striving after victory.

The right way to build a rock garden will ever remain a matter of opinion and taste. The plan which appeals to one may seem ridiculous to another. Some avow that the fewer rocks used the better, others prefer rocks in plenty and of some size to enable them when building to contrive these nooks and crannies, cracks and crevices in which so many treasures, hating a moist surface, flourish and wax beautiful.

Beyond doubt many alpine may be grown well without large rocks; sharply sloping banks of gritty soil, well surfaced with fair-sized chips to prevent washing, are suitable for many things, while the still more gritty moraine has proved a success in many cases, where, previously, rare plants have failed to establish.

Nevertheless rocks well placed are undoubtedly effective in appearance and give a variety of aspects not otherwise obtainable, placed, too, as they inevitably are, at various angles, they give shelter and shade to many plants that want it.

When building up the rockwork it is better not to have too much soil in the way at first, as it interferes with the proper placing of the stones; sufficient gritty soil whereon to properly bed each stone is all that is necessary; then as each layer is satisfactorily placed it can be filled up behind to the level of the top of the stones with a further supply of gritty soil, leaving the top and the bold front of each stone exposed while the base and the back are well and firmly bedded. In this way the work may be proceeded with until the desired height is reached, leaving irregular bays and pockets here and there to be planted with subjects which flourish on flat or slightly sloping ground, reserving the cracks and fissures between adjoining stones for plants requiring vertical positions.

Much pleasure can be derived where large stones are scarce in contriving to make a number of small flat stones look like one large boulder full of fissures. This can be done by throwing up a small mound of soil, well bedding the stones into it with the flat sides outwards, finishing off with a flat one on top; when the fissures between the various stones are planted such an arrangement has quite a natural effect and grows many good plants well.

At the base of the rockwork irregular bays may be left if necessary, and these, when the building is finished, may be dug out to a depth of 12 to 15 inches and filled with a mixture of peat, loam and rotten manure for plants requiring more than ordinary moist conditions.

The number of rock plants in cultivation now is enormous and is constantly being added to. Many new ones have been made available of recent years, some easy to do, some difficult so far; but the same is true of many that have been known for years. In the next issue we shall discuss some of the plants for the rock garden, chiefly the choicer kinds.

B.

Horticultural Instruction in the Netherlands.

By MR. J. VAN DEN BERG.

I HOPE to have made plain to readers in the preceding articles what I have written about the different horticultural centres in Holland; that horticulture in that country is a very important industry founded on sound lines, and it is unnecessary to say that this would be impossible unless horticultural instruction had attained a very high standard of excellence.

Horticultural instruction in Holland is divided into three grades, namely, high, secondary, and elementary instruction. High instruction is given in the Government University for Agriculture, Horticulture and Forestry at Wageningen, and only those students are admitted who have successfully passed a five years' course at a high school or gymnasium; they are those who can show that they are qualified to enter an university. The course lasts three years, and having passed the different examinations and been employed one year at practical work students obtain the Horticultural Diploma. A large experimental garden for practical work is attached to the University at Wageningen, while lectures are given in the following subjects:—

First year.—Physics, meteorology, plant physiology, mineralogy and soils, chemistry, drawing, national economy, general plant culture, mathematics, surveying and levelling, mechanics, botanical terminology and practical work.

Second year.—Botany, plant pathology, free-hand drawing, garden architecture, treatment and improvement of soil, surveying and levelling, agricultural chemistry, theory of manures, systematic classification of horticultural plants, arboriculture, fruit culture, vegetable and flower culture, national economy and business methods, civil law, and practical work.

Third year.—Botany, phytopathology, free-hand drawing, garden architecture, theory of manures, systematic classification of garden plants, arboriculture, fruit culture, vegetable and flower culture, national economy and business methods, civil law and practical work.

Secondary teaching in horticulture is given in several Government horticultural winter schools, the principal school being situated at Boskoop, Aalsmeer, Lisse, Nualdwyd, Floorn, &c. Students must be at least 16 years of age and have to pass an entrance examination, while they must be able to prove that they have been employed one year at practical work. The object of these Government horticultural winter schools is to supply at moderate cost future heads or technical leaders of nurseries or horticultural institutions with theoretical knowledge, having as a first principle learning the theory in the school and the practical work in the nursery. With this intention these schools are mostly always situated in a horticultural centre, and thus there is plenty of opportunity to be found for the students to engage in practical work and to see practical work. Although teaching is given in all the different subjects to be described further, the main teaching, however, centres round the chief culture, practised in the centre in which the school is situated. Thus, the main subject taught at the horticultural winter school at Lisse, which is situated in the bulb district, is bulb-growing; in the school at Boskoop, the centre of the tree nurseries, arboriculture; in the school at Aalsmeer, the centre of florists, flower culture; while at the

school of Nualdwyd, situated in the Westland district, fruit and vegetable culture is the chief subject taught.

The course at those schools lasts two winter sessions, generally from September till May, while in the summer the students are employed in the nurseries of the centre in which the school is situated, or they go sometimes to nurseries in foreign countries.

Lectures are given in the following subjects: botany, arboriculture, fruit and vegetable culture, flower culture, bulb-growing, landscape gardening and garden drawing, glasshouse building and heating systems, nomenclature, phytopathology, chemistry and physics, bookkeeping, business methods, commercial geography, English and German commercial correspondence, while at several schools special courses are given in Russian, Swedish and Danish commercial correspondence.

The students of the Government horticultural winter schools live in lodgings round the school, and after having passed with good results at the end of the second year, they get a diploma, and they go, mostly, away for a few years to nurseries in foreign countries, to obtain a good knowledge of foreign languages, and to see other methods of working.

Attached to these winter schools are more or less extensive gardens, where students receive practical instruction, where experiments are carried on, and for supplying material for the lectures and for training future students in practical work.

Elementary instruction is given in the winter courses, held in several places and supported by the State with money grants. Each course extends two winter sessions, and lectures are given in the evening. Students, such as youths employed in the nurseries, attend these classes in winter evenings. They enter every two years and must be at least fifteen years of age. The teaching is mostly done by national school teachers, who possess the necessary qualifications, while practical gardeners are also employed for teaching.

Teaching is given in all the elements of natural science, including plant diseases and pests; manures, soils, treatment and improvement of the ground; fruit and vegetable culture; flower culture; arboriculture and horticultural drawing. In 1913-14 the number of those winter courses was 132. Another school where horticultural instruction is given is the Gerard Adriaan van Swieten school at Frederiksoord. This school is surrounded by a large garden in which are many glass houses, and at this school more especially head gardeners are trained, while many of the students go out to the colonies as employees on the plantations of rubber trees, &c. The course at this school lasts three years and provides both theoretical and practical training.

A school for lady gardeners is found at Rijswijk, a suburb of the residential city of the Hague.

Besides these courses for young people there are special courses for adults, and in 1913-14 season there were 72 of these courses, all receiving grants from the State. The State also assists horticultural societies which organise lectures and courses.

Twelve Horticultural teachers are appointed by the State in different parts of the country, and it is their duty to advise officials and professional gardeners to deliver lectures, to lay out experimental plots, to conduct experiments and in general to further the interests of horticulture.

Five of them are at the same time directors of the Government Horticultural Winter Schools above mentioned.

Notes on Indoor Flower Photography

By E. T. ELLIS, F.R.I.S.

SOME months ago an article of mine appeared in your journal on "Notes on Outdoor Flower Photography," and as the winter is upon us with its days of wet soil, when digging is impossible, it may be of interest to say a few words about photographing flowers indoors, since this can be made into both a pleasurable and a profitable hobby. Gardening journals are always pleased to consider photos of groups of bulbs for illustrating "Bulbs in Pots" articles, and of common or rare pot plants: also of specimen or bunches of cut flowers for illustrating their general articles on these plants. They pay for them well even in these days, and anyone who gets a name for this class of work—and a name is soon made—is sure to be asked very quickly to prepare a whole series of plant photographs to illustrate new books on hardy or half-hardy flowers which are constantly appearing.

Some Simple Staging.—Flower photographs indoors can be taken in all weathers by artificial or natural light, and one humourist in telling me some of his experiences in this fascinating task informed me that he took advantages of flashes of lightning during thunderstorms when making exposures in his studio instead of using magnesium powder.

The present writer, however, prefers not to rely on anything so uncertain as thunderstorms, which are, of course, comparatively rare during the winter months, but to stage up his plants of whatever kind they may be or his vase of cut flowers so that as much light as possible from a large window shines upon them. Behind the exhibit, which must be stood on a rigid box or something of that kind, a large screen of white or red cartridge paper is put at least two feet larger each way than the widest or highest part of the subject to be photographed. (It will be remembered that a smaller screen of similar material was advised for special "subjects" out of doors). The subject must be staged at least 10 feet away from the window, and if the sun should come out when all is ready the window must be opened wide to prevent the mark of the sashes showing on the screen behind the exhibit. Generally speaking, it is better to photograph out of direct sunlight in the winter, as the strong winds experienced may, when the window is opened, blow the exhibit about, injure it or give a photo where the subject has "moved."

The camera should next be got ready. A quarter plate camera which takes plates, not films, is the best, as this has a movable piece of glass at the back on which the whole picture can be seen just as it will appear (only uncoloured, of course, when finished) on the finished print. I do not find that a film camera with an ordinary view finder is satisfactory for this work, nor is anything but a proper tripod stand for the camera much use, as it is essential that both the object and the camera be perfectly still and rigid if sharp, clear, natural pictures are to be obtained. The camera should have a good lens—my own is an Aldis-Uno Anastigmat, and a "planiscope lens," easily obtainable and quite inexpensive, should be put on in front of the ordinary lens to enable a much nearer view of the object to be taken.

For indoor work very "fast" plates are absolutely essential, and a speed number of at least 300 should be obtained. Thus the ordinary

"special rapid" plates sold in such large quantities by photographic chemists will not serve. Their speed number is only about 200 H. & D. Although some photographers recommend slow plates with speeds ranging from about 100 H. & D. or even less, and long exposure as the objects can be kept perfectly still indoors, I do not find they give satisfactory results in the work. A slow plate and a long exposure somehow does not, in my hands, give sharpness of outline—an absolute essential for reproduction.

The two plates I have found most useful so far are Twentieth Century Fast (Speed 300-400 H. & D.) and Wellington Anti-Screen (Speed 300-350 H. & D.) The last named plate is fine for yellow or very brightly coloured flowers.

The Taking of Time Exposures.—Having got the camera on to its stand particular care must be taken to focus, so that every part of the flower or plant is perfectly clear. In a group of flowers or bulbs in pots this is not very easy, and some may have to be moved a shade to fulfil this requirement. Any part of any picture not in focus renders its chances of reproduction remote, so the importance of this cannot be too greatly emphasised.

And now as to the actual taking of the picture, the golden rule is neither to under expose nor to over expose. On very dark days, if the lens is stopped down to one half, the shutter may be opened and a flash holder of magnesium powder let off at leisure, the shutter of course being closed again before the plate is removed. Otherwise no stopping down whatever is, in my opinion, necessary or advisable, and the actual exposure necessary can be found by the use of an "exposure meter," easily obtainable anywhere. Where there is any doubt a twentieth of the time should be added to the estimated time. A watch with the second hand is of course absolutely essential for the work.

As to the developing of the plates, I like to begin in a rather strong developing solution, and the moment the picture is visible transfer to a much weaker solution, and finish off there. In a weak solution about one half the strength named on the packages, over development is almost impossible, and very great detail can be obtained by avoiding "rushing" the plates. "Rytol" developer is magnificent for this sort of work. I have long ceased to use home-made developer of pyrogallic acid on account of the foul stains it often produces both on ones plates and ones fingers.

One word in conclusion about making prints of these photos. Daylight made prints are but little use for reproduction—a fact very few flower photographers are aware of. It is the black and white gaslight prints which have to be developed and fixed in the same way as negatives or plates that are wanted. Makers of gaslight printing papers include an "indicator" in their packages, whereby the exposure each plate needs can be easily found out, and this should always be done. I find Noctona and 20th Century Gaslight very excellent printing papers for the work.

As, however, it is possible that the prints may have been "over printed" it is not advisable to begin with a strong developer, as advised for plates. Begin with a weak one, and if no sign of the picture appears after two minutes' immersion, transfer to a stronger solution, finishing off, as already advised, in a very weak solution to get full detail.

New Hardy Flowers for the Garden.

Of the many reasons advanced for the ever-increasing popularity of hardy flowers, one seldom sees mentioned the comparatively reasonable price at which novelties can be purchased.

Everyone likes trying something new and it is this regular introduction of novelties, and their being offered to the public at reasonable prices, that is helping to enflame the enthusiasm of the hardy plant lover.

Take for example Geum Lady Stratheden the new golden-yellow form of the popular double scarlet Mrs. Bradshaw. This is considered one of the finest hardy plant novelties of the season, and was given an Award of Merit at the Chelsea Show only this Spring, yet it is offered by the Raisers (Messrs. Baker's, Codsall, Wolverhampton) at the comparatively reasonable price of 3s. 6d.

In the new Hardy Plant List just received from this Firm I find many other novelties, of which I have made notes during the past season, offered at equally reasonable prices.

One of these is a new and improved variety of *Aster Amellus*, with charming lavender flowers, aptly named Lavanda, and another is a *Phlox maculata Alpha*. The latter is quite a distinct type of Herbaceous Phlox, for instead of the flowers being bunched together, as is the case of the ordinary type, they are, in this variety, carried on an elongated spike, forming almost a spray. As will be readily imagined this is a great improvement, and the effect of the bunch, which was given an Award of Merit at the R. H. S. Hall, was wonderfully light and graceful.

Primula denticulata magnifica is another novelty worth possessing; it is a super-strain of *denticulata grandiflora*, with large flowers and a wider range of colours.

A pure white form of the charming family of Astilbes is called "Beauty of Codsall," and is another of the first-class novelties offered.

One of the most remarkable Delphiniums I have ever seen has been given the appropriate name of Butterfly. Its flowers are an extraordinary combination of light and dark blue, pink, rose and white, and yet the colours blend delightfully.

Two other really good 1921 Delphiniums are David, a rosy lavender, and Jean, a silvery blue.

These are only a few of the novelties listed, and are mentioned because I happened to have "noted" them when exhibited. G. W. C.

Vegetable Cookery.

GIRASOLE OR JERUSALEM ARTICHOKE.

THIS is one of our nicest early winter vegetables, and comes from Brazil. It is at its best when taken out of the ground freshly, but by raising before severe frost and storing, it keeps in fair condition for a few months.

ARTICHOKE "AU GRATIN."

Well boil the peeled artichokes in milk and water. When cooked mash smoothly and fill into a deep dish, with pepper and salt and finely minced shallot to taste. Cover with white butter sauce, finally sprinkle liberally with grated cheese and sparingly with some fine bread crumbs, if

half Parmesan and half Gruyère cheese is used in all cookery "Au Gratin" it is a great improvement

PALESTINE SOUP.

Peel the artichokes, boil in water in which a small quantity of milk has been added. Pepper and salt to taste, some celery, leeks or onions. Boil to a pulp, then pass through a collander. Sufficient artichokes should be used to make the soup slightly thick, or thicken with well-blended cornflour or flour. Milk cream and any white stock can be used with great advantage, the chief difficulty to guard against is in making the soup too thick or not white enough.

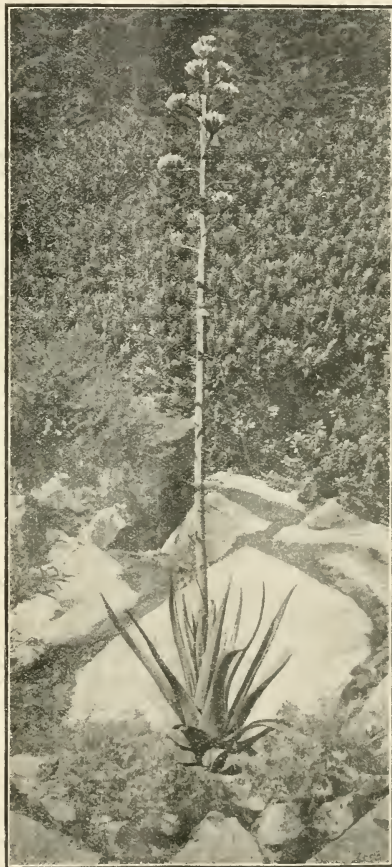


Photo by]

[C. J. Richardson, Dalkey.

AGAVE AMERICANA VARIEGATA in the Rock Garden, San Elmo, Dalkey.

Garden Weeds.

WEEDS are one of the gardener's greatest enemies, and all those who have toiled at the back-aching job of hand-weeding, especially during a hot summer day, will wish that there were no such things. But while we regard them as enemies we must not forget that in the olden days most of them had their medicinal uses. Nor must we overlook the fact that many of our fine herbaceous plants and our vegetables were originally weeds. It is through the patience of the hybridist and seed-selector that we have got herbaceous plants such as we have to-day.

A good instance of the above is furnished by the groundsel. It is a weed, but *Senecio clivorum* and *Senecio elegans*, which belong to the same family, are beautiful cultivated plants.

Once when I had written an article on weeding, for a paper read by country lovers, I was replied to by a correspondent who asked me what a weed was? I replied that it was a plant in the wrong place, also I mentioned that it was usually a rather coarse plant without remarkable good flowers, and was to be found in woods, fields, and commons. So a weed shall be a plant in the wrong place, and as a plant in the wrong place spoils the effect of flowers or checks the growth of vegetables (besides taking a vast lot of nourishment from the soil), that plant must come up.

Just the same as our herbaceous plants, weeds also belong to a vast number of Plant families. Perhaps the commonest weeds, the Daisy (*Bellis perennis*), Dandelion (*Taraxacum officinalis*), the Hawkweeds (*Hieracium pilosella* and *H. boreale*), the Groundsel, (*Senecio vulgaris*), the Coltsfoot (*Tussilago Farfara*), the Hawkbit (*Leontodon autumnalis*), the Sow-thistle (*Sonchus oleraceus*), the Yarrow (*Achillea millefolium*), and one or two others—all these belong to the great order Compositæ. To this order belong some of our finest garden flowers; for instance, *Chrysanthemum maximum*, *Pyrethrum*, *Erigeron speciosus*, *Doronicum*, etc., etc. Other weeds such as chickweed (*Stellaria media*), Mouse-ear (*Cerastium rugatum*), and Stichwort (*Stellaria holostea*) belong to the order Caryophyllacæ, from which come Carnations, picotees and pinks. A vast host of garden weeds belong to the order Cruciferae, from which we get such garden plants as Stocks, Wallflowers, etc., and vegetables, such as the Turnip, Cabbage, etc. Some of these weeds, such as Shepherd's Purse (*Capella Bursa-pastoris*), and Charlock (*Sinapis arvensis*), are very troublesome to get rid of, and the first often appears by the thousand every spring. Docks (*Rumex*), which are some of the worst weeds, belong to the order Polygonacæ (as does the rhubarb). And this order includes Shepherd's Sorrel (*Rumex Acetosella*), Knotgrass (*Polygonum ariculare*) etc. Another bad weed is the Bindweed (*Convolvulus arvensis* (Order Convolvulacæ). In some places it is found everywhere, but in this district, I am glad to say, we have none of it. Other well-known weeds are the common Nettle (Urtica), the Buttercup (Ranunculacæ), the celandine (*Chelidonium majus*), Clovers and Vetches (Trifoliums and Vicia—these two belong to the Pea Family), the Dead Nettle (*Lamium purpureum*), the Fanfory (*Fumaria officinalis*), the Goose-foot (*Chenopodium album*), the Gout weed (*Egopodium podagraria*), the Self-heal (*Prunella vulgaris*), the Toad-flax

(*Linaria vulgaris*), the Twitch-grass (*Triticum repens*) etc.

Much of my space has been taken up in talking of the weeds themselves, and readers will be saying that what is more use to them—namely how to get rid of the weeds—has been sadly neglected. However, I will proceed to make amends for this in the space at my disposal.

Too much importance cannot be attached to the clean cultivation of the land. When one views gardens thick with wild weeds, such as Coltsfoot, Yarrow, and Dandelions, one sighs very greatly, for if things had been taken in time the garden would never have got into such a state. Given that the garden is fairly clear of weeds at the beginning of the summer, or rather the spring, there is no reason why it should get the topband over the gardener. If the hoe is brought out and kept going as April and into May, half the weeds will never get a start at all. Weeds seed very rapidly, and the hoe is only able to be used in the early stages for getting them up. If they are allowed to grow, then hand-weeding is the only way, and Dandelions and Docks have to be got up with the aid of a fork. Weeds sometimes grow close to annuals and perennials in the borders, so then they have to be taken up with great care. I am a great advocate of an early start being made. If you get the top side of them at once you are all right.

Now what shall we say to those who come into a neglected and very weedy garden or to those who make a field into a garden? The soil in both cases is sure to be full of seeds and roots of weeds. It will be a hard fight, but the gardener will win. One way is to trench two feet deep and bury the first spit at the bottom of the trench. Another way is to burn the whole of the top six or nine inches of soil, and spread it on again. Yet another way is to well dig or double dig the soil, picking out every scrap of weed. You see, this though the hardest, is the best. Then whenever weeds begin to make their appearance they must be fought with the hoe and fork, being raked off and burnt at once, and the ground well limed. If possible it should be cropped with mid-season potatoes the first year, there is nothing like this for cleaning the ground.

E. T. E.

Annuals for Beds.

AMATEUR gardeners frequently tell one that they fail to get satisfactory results with growing annuals, and they ask one's advice. Naturally one enquires how they have been growing and what sorts, and on obtaining this information advice can be given. The most general method of growing annuals is to sow out of doors in well prepared beds in April.

Our English climate, however, is not exactly ideal for this method, though some years results are splendid. But in case it may be of interest I am giving below another method which for several years past has been proved highly successful, and at the end of this article will be found some of the many annuals which may be grown by it.

The method I have found best is to sow a large pot of each annual in good soil during the month of March. The pots are put into a warm dark cellar till the seeds germinate, and are then moved and put into a cold frame, which is covered with mats in severe weather. As soon as they are large

enough they are pricked out 3 inches apart each way into boxes of good soil and these are put into cold frames. I find no heat of any kind is necessary, for if air is not given too freely the plants make very good headway. By the end of April more and more air must be given till the lights are taken off night and morning. From the middle of May to May 31st they may be planted out into well-manured beds, placing most of them six inches apart each way, and some of the *Godetias* *Clarkias* and *Convolvulus* 9 to 12 inches apart. If they are well watered they soon get established and bloom very well indeed, most of them much better than those sown out of doors.

Crimson King, *Douglasii*, *Godetia*, Bridesmaid, The Bride, Sunset, Dutchess of Albany, Rosamund, Lady Abermarle, Lord Roberts, *Helichrysum*, tall double Crimson; *Jacobia*, double crimson and double purple; Larkspur, Hyacinth, Mignonette, large flowering sorts (transplanting carefully); *Nemophila insignis*, *Nigella hispanica atropurpurea*, *Saponaria calabrica rosea* and *alba*, *Schizanthus pyramidalis*, *Silene pendula compacta*, crimson, white, pink; Sunflower, New Dwarf, Compact, Zinnias double.

Readers can experiment with other annuals for themselves. But the above list includes some of the very best.

E. T. ELLIS, F.R.H.S.



A GOVERNMENT HORTICULTURAL SCHOOL, HOLLAND.

We have had recourse to this method because of the exposed nature of our garden. Many of the annuals would not do anything like as well whenever trusted to out-door sowings.

Those planted out should be kept well watered during summer and tied up as they need it; and will become covered with bloom. Not all annuals by any means can bear transplanting in this manner, but the amateur should grow chiefly those that can.

SOME GOOD SORTS—Having tried a great many annuals in my time I can recommend the amateur to grow any of the following:—*Calendula Meteor*, *Grandiflora*, *Dobbie's Orange*, *Prince of Orange*, *Candytuft*, *White Rocket*, *Little Prince*, *Dark Crimson*, *Chrysanthemum*, *Snowball*, *Coronarium*, *Morning Star*, *Princess May*, *Clarkia elegans*, *Salmon Queen*, *Orange King*, *Queen Mary*, *Clarkia pulchella*, *Mrs. Langtry*, *Collinsia bicolor*, *Convolvulus minor*, mixed; *Eschscholtzia*, *Mandarin*

The Kitchen Garden.

VALUE OF ROOT CROPS—I should like first to say a word or two on the value of root crops, and it must be considered from a monetary as well as a food-value standpoint. There is no doubt that it is much cheaper to plant a rod of ground with cabbages, cheaper as regards seed, soil, and labour, but the food value of the crop when it is ready as compared to the food value of root crops is very small. So those gardeners who seek real economy should grow plenty of root crops.

THE POTATO—This is certainly by far the most valuable root crop and is the easiest to grow. People say that potatoes require a lot of manure, but I have seen wonderful crops grown on soils which are nothing but shifting sand, to which a little garden refuse, manure and some superphosphate had been added. Much animal manure produces supertuberculation, and coarse gigantic tubers which

are not suitable for the table. Seed of good early sorts such as Sharpe's Express or Sharpe's Victor should be obtained at once and put to sprout. In late March it can be planted in rows 2 feet apart, the sets being placed 12 inches asunder. Other sorts suitable for the general crop are King Edward VII., Duke of York, British Queen, The Factor, Up-to-Date, and Windsor Castle. These should be planted any time from April 15th to May 10th. Plant in rows 2 to 3 feet apart, and let the sets be 1½ feet from each other in the rows. On a wet day, when the crops are coming up, scatter superphosphate freely about the rows and hoe it in. Earth-up betimes, or they will fall about. They should not be lifted until the tops begin to die down, or many tubers will have to be wasted as being too small to use.

PARSNIPS AND CARROTS—For these a deeply dug soil is essential, and no fresh manure must be within 2 feet of the surface at the least. They appreciate a dressing of potash to the soil, say a pound or so of sulphate of potash per rod. I have also found it necessary, if one is to get a good crop, to give a dressing of phosphate manure. For early work use Basic Slag (5 lbs. per rod), but by the time this can appear it will be too late to do this, so instead use 56 ozs. of superphosphate per rod, washing it in a week before sowing. Sow from now onwards for parsnips, as they require a long growing period. Carrots we find it is no good to sow before the middle of March in this district. The best sorts to grow are Parsnips The Student and Hollow-Crowned, and Carrots Long Surrey Red, Altringham Selected, and Champion Scarlet Horn.

BETROOT—This requires similar treatment to the above, but must not be sown till about the end of April. Drills are drawn 1½ inches deep and 18 inches apart, and the plants thinned to 1 foot apart. A dressing of Nitrate of Soda (1½ lbs. per rod) is useful during the growing season. Good sorts to grow are Sutton's Blood Red, Dell's Crimson, Veitch's Red, Chillingham, and Covent Garden.

OTHER ROOT CROPS—The Jerusalem Artichoke is a valuable root crop. Plant in March 6 inches deep in rows 2 feet apart, allwing 12 to 15 inches between each set. A good sunny site is essential. Salsafy I have already dealt with in a note, so I need not repeat. Kohl Rabi should be raised from seed sown in heat in March and planted out after being pricked off in May or June. The same applies to Celeriac. Turnips, of which the best sorts are Early White and Snowball, should be sown in the middle of March in good rich soil, and thinned to 9 inches apart. Sow broadcast or in rows, if rows let them be 18 inches apart. Onions here are best sown in heat in February, and pricked off, being planted out in rich soil when the weather is warmer. Ailsa Craig is the best sort. Shallots planted in February or March in rows a foot apart and 6 inches between the sets also form a useful root crop.

E. T. E.

Mashed Artichokes

This is a great improvement on the ordinary way of serving boiled artichokes. Peel, and after being well-boiled in water add a small quantity of milk, just enough to keep the vegetable white. Mash the artichokes smoothly, put in a deep dish, pepper and salt to taste, some butter, milk or cream, sprinkle over the top with fine bread crumbs, with small pieces of butter added, bake in the oven until browned on the top.

Kew Notes.

COTONEASTER HARPURIANA.

In flower, foliage and fruit this Chinese Cotoneaster is a distinct and useful addition to our hardy evergreen shrubs. It was introduced from Yunnan by Mr. E. H. Wilson during his first expedition on behalf of Messrs. Veitch in 1901. *C. Harpuriana* is an elegant large evergreen bush, 6 or 7 feet in height and more in diameter, making a very ornamental lawn shrub. The white flowers are freely produced in terminal and axillary corymbs. These are followed by quantities of pea-like fruits which in late autumn turn a rich orange red.

DEUTZIA WILSONII.

A vigorous shrub, 6 feet or more in height, this Chinese *Deutzia* is a very valuable addition to our hardy shrubs. Flowering at the end of May or early in June, the blossoms escape the frosts which often spoil the popular *Deutzia gracilis*. The pure white flowers are 1 inch across and freely produced in corymbose panicles.

QUERCUS MIRBECKII.

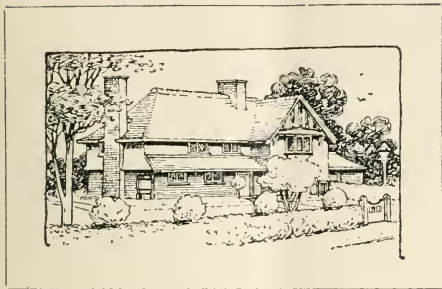
A native of North Africa and Portugal, *Mirbeck's* oak is a very distinct and handsome tree. Though, strictly speaking, deciduous the large dark green leaves usually hang on the trees until well into the new year. Native trees are recorded up to 120 feet high, but it was only about 1845 that the first acorns reached this country. Our tallest trees, however, already exceed 70 feet.

A. O.

In Memoriam.

MR WILLIAM DICK, who passed peacefully away at his residence, Belsito Lodge, Inchicore, Dublin, November 19th, "soothed and sustained by an unflinching trust, like one who wraps the drapery of his couch about him, and lies down to pleasant dreams," was born 6th June, 1830, at Keith, Banffshire, where his father held the post of overseer on the Duke of Fife's Braemar estate. In early life he was apprenticed at Gordon Castle (Duke of Richmond), going from there to Dalkeith Gardens under Mr. David Thompson, gardener to the Duke of Buccleugh. At the end of 1859 he was appointed gardener to the Marquis of Londonderry, Wynard Park, Stockton-on-Tees, when after ten years he left to occupy a similar position at Canford Manor, Dorset, seat of Sir Ivor Guest. Seven years later, through the influence of Sir Joseph Hooker, Director of Kew, and his own eminent suitability for the post, he was appointed bailiff of the Phoenix Park, Dublin, where, after 23 years' notable service in its amenities, he retired at the age of seventy years on pension from the Irish Board of Works. During his more active life Mr. Dick was a frequent contributor to the *Scottish Gardener*, *The Garden*, and other papers under the nom-de-plume "The Squire's Gardener." Above the average height, of distinguished appearance, and gifted with more than ordinary attainments in his vocation, Mr Dick was a notable personality in the Irish gardening world, and now that he has passed away "full of years," it is pleasant to recall various little incidents which revealed the high moral standard he lived up to and that rare old world courtesy and dignified manner which went to make a true gentleman. At the funeral, private, which took place November 22nd, to Castletown, Co. Dublin, his Rector paid touching tribute to the esteem in which our old friend was held.

K., Dublin.



Allotments.

PLANNING THE PLOT.—Very few allotment holders have any settled ideas how the plot is to be cropped, what space is to be allowed for each vegetable, and how many rows can be allowed. Personally, we always work from a plan, and have a rotation on the plot so far as is possible. At the same time, we have to admit that a plot that is highly manured and cultivated deeply, rotation of cropping is often ignored. For one thing, the area of a plot is too small to do very much in the way of rotation in cropping, and many good growers on allotments sow and plant just where there happens to be space. With most people Potatoes are the important crop, and it is usual where the ground is occupied with Potatoes to transfer this crop each year. There are a few points, however, that it is profitable to bear in mind. Peas usually grow well on old Celery trenches. They are able to root deeply in the well-cultivated ground, and will fill the pods in dry weather. Parsnips and Carrots also succeed on the same ground, and if the land was well manured for the Celery, no further manuring is necessary, except, perhaps, artificial manure. Cabbages and other greens should not be planted on ground previously occupied with Turnips, especially if that crop has been infected with club-root. It would also, of course, be sowing for failure to sow Onions in the same bed if the previous crop was destroyed with insects. The same with Carrots. In fact, it is often impossible to obtain a satisfactory crop except on fresh broken land.

PURCHASING SEEDS.—In common with other commodities, the price of seeds advanced, and as only the best seeds are worth sowing, it was an advantage to be appreciated that reliable firms only stocked seeds of a high standard of purity. Only seeds of the very best quality should be purchased. The same amount of labour is required to prepare the land for both good and poor seeds. In fact, the poorer the land the better the seeds should be if possible; otherwise, valuable time may be lost owing to bad germination. It is important also to know that the seeds obtained are exactly the variety they are represented to be. As an instance if a late variety of Potato is substituted for an early kind, the fraud would mean a serious loss to a farmer growing on a large scale for a particular market. Perhaps in the case of Potatoes an expert is not so easily deceived; the opposite is so with very small seeds, and the purchaser is en-

tirely at the mercy of the vendor in this respect. Therefore, allotment holders are particularly advised to deal only with firms which have a reputation to lose, such as those that advertise in this journal, and thus ensure that only reliable seeds are sown. Where only a small quantity of each kind of seed is required, small growers are apt to be attracted by the cheap packets of seeds which will shortly be seen in shops everywhere, with an illustration on the cover showing vegetables of extraordinary magnificence. Seeds for sowing should be from the previous year's harvest. At the same time, good seeds will keep for more than one season. In selecting kinds of seeds to grow, the varieties which are known to succeed in the district should be selected. Varieties which have proved reliable with the plotholder, and suit individual requirements, are to be preferred to unknown kinds.

The quantities of seeds required depend, of course, on what space will be allotted to each vegetable. Usually a quarter ounce packet contains sufficient seeds of Cabbages, Cauliflowers, Sprouts, Savoys, and similar crops of greens. One pint of Peas should sow a row about 60 feet long. Care is necessary when purchasing Peas. The varieties differ greatly in height, earliness, &c. Most catalogues state this information. In the case of small seeds, such as Carrots and Parsnips, half an ounce gives sufficient variety.

POTATOES.—In the case of Potatoes the quantity of "seed" required to plant the whole of the plot depends on the distance apart between the rows and the distance between the sets in the rows. Early varieties are usually planted closer together than late kinds. The distance mid-season and late varieties of Potatoes are planted is 2 feet 6 inches between the rows and 1 foot 3 inches in the row. A fair weight for an individual set for planting is 2 ounces. At this rate the weight of Potatoes required would be 7 st. 12 lbs., or, approximately, 16 cwt., to plant a statute acre. There are now scores of kinds of Potatoes, and the number of varieties is increasing rapidly. Many differ but little in habit and growth from each other. A Potato which can be lifted very early is May Queen. Sharpe's Express is another early kind. Probably the most popular sort is British Queen. It is not quite so early as the two former varieties. For late use Arran Chief, The Factor, or Irish Queen may be planted. The Potato Great Scot is the heaviest cropper we plant. It is a good plan to purchase at least part of the seed each year. Where the plotholder saves his own seed, a change is advisable about every two years. A good change is from the North of Ireland to the South or from a colder to a warmer climate. Sprouting the tubers is especially valuable for producing early Potatoes. When the seed is purchased of early varieties they should always be sprouted in boxes. It is very probable such Potatoes have already sprouted in the store, and the sprouts have been unavoidably knocked off.

GENERAL REMARKS.—Very little, or nothing, need yet be attempted in the way of sowing seeds on allotments. The chief question at the moment is to obtain a supply of manure, if it has not already been procured. Whenever the soil is in a good condition it may be worked, but more harm than good may result from working on heavy soils when they are very wet. Plots of this description should be trenched up in the early part of winter. If the water lodges on the plot, trenches should be cut along the sides and across the plot to provide drainage.

G. H. O.

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

Will need great attention this month preparing all vacant plots for the coming season's crops. Prepare a plan, mark off into squares, and as near as possible work to scale. By this means each piece of ground can be prepared correctly to suit its occupants. During the past few years vegetable growing has come very much to the fore, and rightly so, considering their great health-giving qualities, and there is still plenty of room for improvement. I should like to see the small gardens and cottagers growing more varieties, especially Beans, Peas, Cauliflower, Beet, Parsnips, Leeks, Brussels Sprouts, Marrows, and Lettuce. This would give greater satisfaction. I am sure, than the usual Cabbage, which of course in its season is most valuable, but must get monotonous year after year.

CATALOGUES.—As soon as the seedsmen send their catalogues, mark off the requisite seed, add up the total to see that it is not in excess of the amount to be spent, then make up the order form provided, neatly and clearly, and post with as little delay as possible. By this means it gives the seedsmen more time to execute the order and also prevents disappointments in some of the best varieties being sold out. Keep well to the standard and well tried varieties, adding and trying a few of the most promising novelties.

FORCING VEGETABLES.—Get large quantities of leaves, 3 parts, and long litter, 1 part, made up into hot-beds for filling the forcing pits and for standing box frames on. As soon as possible it is a good plan to draw the leaves together as near the frame yard as can be conveniently managed, this saving the second carting. The above will bring along such useful crops as Potatoes, Carrots, Turnips, Beet, Radishes and Lettuce. Asparagus will easily force from this month onwards, taking great care never to allow the crowns long exposure to the air after lifting. Lift and plant at once in the frames.

BROAD BEANS.—Make a sowing of Broad Beans (Johnston's Wonderful) in boxes for planting out later. Sow 2 inches apart in a compost of 2 parts loam, 1 leaf soil, and 1 of sand. Place in cold frames and cool fruit houses, free from rats and mice. They will require very little water for some time, but give air on every possible occasion. If the soil on the south borders is in good condition a small sowing might be made.

CAULIFLOWER.—Sow a quantity of Cauliflower—First Crop, Magnum Bonum and Early Giant—in boxes to follow the autumn sown varieties. Germinate in a temperature of 55° and grow cool, pricking out the young plants as they become fit for handling. Make sure they never suffer from drought. When watering see that the soil is wet right through the box. Oftentimes soil is used from under the potting bench in too dry a condition, and water only runs through in places, leaving the bulk of the soil as dry as ever. Give the autumn grown plants pricked out in frames air on all mild days and nights. Keep the soil sweet and constantly pricked over between the plants.

CARROTS.—If heated brick pits are available make a good sowing of Early Gem Carrot. Sow in lines 12 inches apart, and sow Radishes in between. Use the latter before the Carrots are too large in leaf, otherwise it will cause the Carrot foliage to become drawn. Spray with tepid water on bright days, and keep a sharp look out for slugs coming through the hotbeds, dusting with lime or soot.

POTATOES.—Where new Potatoes are required for Easter (which is early this year), a start must be made with well sprouted tubers of May Queen, Sharpe's Express, New Success, or King Edward VII. If grown in pots or boxes use the following compost:—2 parts leaf soil, 2 parts spent mushroom bed, 1 part loam, and 1 part sand, with a good dash of soot. Just lightly cover the tuber and half fill the pot or box to allow for top dressing; start in a temperature of 50°.

EXHIBITION ONIONS.—Where large Onions are required a start must now be made. Prepare sufficient boxes, filling with the following compost:—3 parts good loam, 1 part leaf soil, and 1 part sand, make thoroughly firm, pick out the largest seeds, and sow an inch apart. Just cover the seed and make firm, then germinate them in a warm house, 55° to 60°. As soon as they are through the soil remove to a light position and slightly cooler quarters; avoid all draughts at all times. Almost all the varieties will attain a good size (except, of course, the Queen varieties). Ailsa Craig, Premier, Cranston's Excelsior, Brown Globe, and A.I. are the varieties principally grown for this purpose. Watch the autumn sown varieties growing out of doors after sharp frosts and gently hoe between the lines if the soil is dry enough.

TOMATOES.—Tomatoes that were sown last month will now require their first shift. Bring soil and pots into the house in which they are growing, so that everything may be the same temperature. Pot fairly firm in a compost of 2 parts loam, 1 part leaf soil, and 1 part sand. Water most carefully, and grow on a shelf away from all draughts. Another sowing of Maincrop varieties should be made as soon as possible. This sowing is the one generally made by the market men to obtain good prices early in the season. Klondike Red and Ailsa Craig are excellent varieties, although for flavour there is nothing to equal "Peach Blow." This is the variety that caused some trouble at the last Bray Flower Show. The Judges evidently did not know the variety, so they passed it as ornamental and not to be considered. I also noticed an article in a weekly paper, that it was shown to catch the judge's eye. I would ask those interested in Tomatoes to get a package of seed and try it for themselves.

PEAS.—In cold districts it will prove a great gain to sow the earliest peas in boxes and plant them out. When the conditions allow, fill a sufficient quantity of seed-boxes with ordinary compost, and sow 2 inches apart. Raise in a cool peach-house, and water carefully. Watch for mice. Gradus and Early Giant are excellent varieties for this sowing.

SEAKALE AND RHUBARB.—Introduce sufficient crowns into the forcing house at fortnightly intervals. See that they do not become dry, otherwise the growths will prove tough and stringy. Maintain a moist atmosphere at all times.

CHICORY AND ENDIVE. Continue to blanch sufficient for the needs of the kitchen. Mustard and Cress will require to be sown weekly.

HARDY FRUIT GARDEN.

RASPBERRIES.—Tie in the canes when the weather permits. When grown on wires, bend all the tips facing north or east respectively. The reason of this is to preserve the length of cane and prolong the fruiting season. If grown on stakes tie in 3 or 4 of the strongest and best ripened canes, and bend the tips on to the next stake, thus arching the whole plantation. Clear away and burn all ties and prunings. Lightly fork over the bed, and add a dressing of well-decayed clean leaf-soil. Should any *Convolvulus* appear it is best to plant new beds on a well-trenched piece of ground in a moist quarter of the garden. Then gradually trench the site of the old bed, picking every piece and burning it in the stoke-hole.

APPLES.—Continue to push forward the work of pruning and spraying as quickly as possible during mild spells. Watch carefully all varieties that fruit on the tips of the growths. When using a pruning saw, be careful to pare the edge of the bark with a sharp knife, leaving a smooth surface. This will cause the wound to heal so much better and quicker. Where grafts are required, save and tie in bundles, and lay in behind north walls. Old orchard trees require to be gone over each season, cutting back all cross-growths and thinning the branches, so that light and air can reach the centre of the trees. Keep the grass away from the stems, and see that ground vermin do not attack the bark. A piece of wire-netting 2 feet 6 inches high, placed around the stems and fastened with an iron stake, I have found the best preventive. Choose fine quiet days for spraying, and the operator must protect his clothes and features if using a caustic spray. Clean up each portion as it becomes finished, burn all rubbish, give a dressing of approved artificial, and carefully fork over the whole surface, leaving everything smart and clean.

RED AND WHITE CURRANTS.—When pruning Red and White Currants, keep the centre of the trees well open, and spur closely to the fruiting buds. Keep all suckers well cleaned away. It is advisable to root a few Currants and Gooseberries each season; by this means one has always a healthy young stock. Cuttings may be taken off previous to pruning, labelled, prepared and healed in under a north wall, ready for planting the first opportunity. Black Currants are best pruned immediately the fruit is picked. Spray the trees if insects are troublesome—lichen, etc. Clean up and burn all prunings; give a good dressing of manure, and neatly fork over the whole ground.

CHERRIES.—Continue to prune and train all Sweet Cherries growing on walls. Leave rather more growth for extension than for most trees, take off the surface soil to the roots of well-established trees, giving a good top-dressing of fresh loam and mortar rubble, and dust the trees over with lime.

PEARS.—Push forward the work of pruning Pear trees both in the open and on walls. Where the spurs have become long and ungainly it is better to shorten some of them right back to the main stem. Where trees are weak and growing in the same soil for years it is a very good plan to take half of it away, replacing with a good sweet, strong compost. For obtaining the choicest fruits I strongly advocate Cordons. These are easily managed and give a far greater return for their wall space. We are just starting the trees again on the wall here at Straffan, taking out a section each season, making the borders with the same care as the vineries. The trees will be treated

exactly the same as those growing under glass as regards training, watering and syringing. I believe outside fruit trees are allowed to suffer from drought, which is absolutely fatal to the production of first-class fruit.

FLOWER GARDEN AND PLEASURE GROUND.

ALTERATIONS.—Push forward any alterations in the flower garden or pleasure grounds as fast as the weather will allow. In severe frost cut down laurels and any trees that are growing too thick.

SWEET PEAS.—If sowing was neglected in the autumn no time should be lost in getting in the first batch of seeds, which are scarce this year. They may be used to advantage in almost any position. Sow either in boxes or pots, according to convenience and requirements. A better effect may be obtained by growing a good quantity of a few varieties than using many kinds of different shades. For use in the rooms, a piece of ground should be thoroughly well trenched and manured as soon as possible, remembering that long stems are absolutely necessary for decorating and select colours to suit the various rooms.

ANTIRRHINUMS.—No garden is complete without a plentiful supply of Antirrhinums. The seed should be sown in boxes as early in the month as possible, and germinated in a warm house. There are many named varieties, but the following are some of the best of their respective colors:—*Pinks*: Carmine Pink (tall), Bright Pink (tall), Delicate Pink (tall), Giant Delicate Pink, Rosy Queen and Carmine Pink (intermediate); Delicate Pink and Old Rose (Tom Thumb). *Yellows*: Orange King, Cloth of Gold and Golden Chamois (tall), Orange King, Rich Apricot and Pale Yellow (intermediate), *White*: Pure White (tall), White (intermediate), and White Queen (dwarf).

EAST LOTHIAN STOCKS.—These beautiful Stocks require a rather longer growing season than most varieties. Sow in boxes and raise in a warm house. Keep each colour separate—white, pink, mauve and red.

SUMMER BEDDING PLANTS.—Continue to keep these rather dry at the roots, only giving the specimen plants increased root-room and a warm temperature to encourage plenty of growth. *Humea elegans* must be very carefully watered.

SPRING BEDDING.—After a spell of frost go over the beds with a small fork, just freshening the surface, and see that no vermin are attacking any of the plants.

SHRUBBERIES.—Continue to collect all leaves, and clean the pleasure grounds generally. Fork in between the shrubs, with the exception of Ericaceous plants, which are greatly benefited by top-dressings of clean decayed leaf-soil.

SEED SOWING.—During wet weather get plenty of soil sifted ready for the seed sowing and picking off later on; get all stakes sharpened and tied in bundles of fifties, and stored ready for use; get labels made and painted, in fact everything that will assist when the rush comes.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard Musgrave, Bart., Tourin, Cappquin, Waterford.

THE KITCHEN GARDEN.

ROTATION OF CROPS.—Whether the kitchen garden be a large or small one, a proper rotation of cropping is essential to obtain the highest quality produce from a minimum outlay of labour and

other expenses. Arrange as far as possible that plants of the same families do not succeed one another without at least one year intervening. Ground on which Celery, Carrots, Beet, Parsnips, and Potatoes have been grown should receive a thorough manuring when digging, or, better still, trenching in preparation for cropping with Peas, Beans, Onions, and Turnips. Cabbage, Cauliflower, Brussels Sprouts, and Broccoli may follow the above, giving a three-course rotation.

CAULIFLOWER.—If young plants were not raised in the autumn, a small sowing may be made this month in boxes. Early Snowball, Early London, and Veitch's Autumn Giant are good varieties. Careful attention is required with these from the time seedlings are up till planted out. The former variety is useful for growing in frames or pits, and also can be recommended for pots.

FRENCH BEANS.—Where sufficient heat is at command, make a sowing in 7-inch pots three parts filled with fairly rich soil. Fill up the remaining space when the plants are growing well. A temperature of 60 degrees to 65 degrees at least will be required to bring them on.

TOMATOES.—A sowing may be made this month for an early crop. Pans or pots are best, filled with light, sandy soil. When the seedlings are up, keep near the glass, and pot off singly into small pots as soon as the first pair of leaves are showing. Grow on as sturdy as possible, and water with care.

ONIONS.—These require a long season's growth to obtain large bulbs; therefore, seed should be sown this month in boxes of fairly rich soil. That in which Melons have been grown, with the addition of some leaf mould, wood ashes, and old lime rubble to lighten it, forms a good compost, passing the whole through a half-inch riddle. Drain the boxes well, and fill to within half an inch of the top, pressed moderately firm. Sow the seeds thin, covering lightly with the mixture. Place the boxes in a temperature of about 55 degrees to start, then shift to cooler quarters in plenty light.

PEAS.—For the earliest picking, sow in pots or boxes and grow on slowly, planting out in warm positions when weather conditions are favourable, giving some protection with spruce branches placed on each side of the drills. Chelsea Gem and Little Marvel are two good dwarf varieties. The Pilot, Drummond's Multiple, and Gradus can be recommended as tall varieties, and will give a succession to the former.

POTATOES.—Those growing in pots for early dishes should be kept near the light. Apply a top-dress when the growth has reached a few inches above the top of the pots. Select seed tubers for forcing in frames, and place in a light, warm house to sprout. Tubers in the store house should be turned over occasionally, removing any sprouts and picking out bad tubers, which soon affect the others.

MUSTARD AND CRESS should be sown at intervals to keep up a continual supply. Further batches of **RHUBARB** and **SEAKALE** may be brought into the forcing house to meet requirements. Give careful attention to all stock wintering in cold frames; ventilate freely when weather permits. Manure and turn up to the weather all ground as it becomes vacant, leaving the surface rough to let the frost penetrate as deep as possible.

THE FRUIT GARDEN.

Work in this department had to be suspended owing to the spell of sharp frost in mid-December, consequently operations will likely be in arrears. The hard state of the ground afforded a good

opportunity to get manure carted on to the different plots in readiness for mulching when pruning is finished.

As soon as a thaw sets in, push on the pruning and spraying on every favourable occasion, and endeavour to get all completed this month.

Insert cuttings of Currants and Gooseberries, prepared as advised in previous notes. If not already seen to, tie up Raspberries to the wires; afterwards hoe very lightly to remove weeds, then mulching with well-rotted manure. It is not too late to make new plantations, but the sooner this is done the better.

The hard frost raised quite a number of the young Strawberry plants, and these should be pressed back into position again when the soil is fairly dry.

Peach trees under glass should receive attention before the buds begin to move; thoroughly cleanse them before tying up to the wires. Remove an inch or two of the surface soil, adding a top-dressing of new soil mixed with lime rubble, wood ashes, and bone meal. Borders should not be neglected. If water is required apply it at a temperature of a few degrees above that of the house.

Prune and cleanse Vines, rubbing off all loose bark which is the hiding-place of insect pests. In the case of inside borders, treat as advised for Peaches. Outside borders should be cleaned and mulched with stable litter.

THE PLEASURE GROUNDS.

Alterations in progress in the flower garden and pleasure grounds should be pushed on to a conclusion this month. Little time can be spared to carry out extra work after this month is out.

If the planting of shrubs is not now completed, it is advisable to defer the work till March and April. Meantime, the ground could be prepared for their reception.

Herbaceous borders may be forked over, working in some well-rotted manure, or, failing a supply of this, a dressing of leaf-mould with a dusting of bone meal will form a good substitute.

Vacant flower beds should be trenched and left rough to let the frost act on them. These would be ready for the reception of such plants that require putting out before the general bedding time. If not already done, thin out the growths of the Wichuriana Roses on pillars, tying in the young shoots for next year's crop of bloom. Other varieties may stand for a time.

Planting should be completed as soon as possible, providing the soil conditions are suitable.

Take advantage of hard weather to cart decayed leaves on to shrub borders, which can be spread over the roots when the frost is out of the ground.

Sweet Peas that were raised in small pots last autumn will require a shift. Keep them near the light in a cool, airy place, but free from frost.

Violets in frames will benefit with a little attention too when the lights can be removed. A light dressing of Thomson's manure, worked into the soil with a handfork, will do wonders. Very little water will be required at this time.

Sow seeds of East Lothian Stocks during the month, and when a pair of leaves are made prick off into boxes or frames.

Examine Dahlia tubers in the store, and if frost is likely to reach them shake some dry litter over the boxes. Gladioli corms may be cleaned on wet days, and do all the little jobs possible that will help to save time later on.

Sweep and roll lawns and tennis courts, and if labour can be spared this is a good time to remove weeds such as plantains, &c.

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Native Orchids for the Garden.

By R. LLOYD PRAEGER.

IN attempting some notes on British Orchids in the garden, at the request of the Editor, I am writing on a subject which I do not know much about, for the species of which I have personal acquaintance in cultivation are not many. But the Orchids found in our own country are all interesting; they include many pleasing plants, not difficult of cultivation; and these casual notes, if they only draw attention to the group, may serve a useful purpose.

The number of Orchids occurring in the British Isles may be reckoned at about forty-four species, at a conservative estimate; this excludes certain "splits" in difficult sections of the genera *Orchis* and *Epipactis*. Unlike the great majority of Orchids—which belong to warm, damp regions—the British species are all terrestrial: that is, they have their rootstock and roots buried in the soil. Possibly we might exclude from this statement the tiny Bog Orchis, *Malaxis paludosa*, which is found on cushions of wet sphagnum, and the very rare *Liparis Loeselii*, which affects similar habitats, and is now almost extinct through the draining of the fen district in England.

Regarding the general treatment of British Orchids in the garden, some hints may be gathered

from a glance at their distribution in our islands, and the kind of places in which they are found. They are essentially a southern group. While the Creeping Lady's Tresses (*Goodyera repens*) and the extremely rare Coral-root (*Corallorrhiza innata*) are the only species found in Scotland but not in England, nineteen species occur in England but not in Scotland. We get a similar result by comparing the north of England with the south of England; and going further into the matter, we find that the main cause of this difference is the presence in south-eastern England of quite a group of species, mostly very rare even there, which are confined to chalky soils. So it is clear that with many of our rare kinds we shall succeed best by planting them in a warm corner and giving them a well-drained limy soil. A few others again, notably the Helleborines (*Epipactis* and *Cephalanthera*) are mostly woodland plants, rejoicing in shade and humus. Most of the remainder, including the majority of our commoner species, are plants of grassy places, brightening our pastures and meadows in May

and June with graceful spikes of white or pink or purple blossoms; these are the easiest to grow, and the ones most frequently seen in gardens. Their roots are mostly tuberous (the effect of a marked thickening of one or more of the root-fibres, for the purpose of storing food for the following season's growth), and they are for that reason the more easily transplanted.

None of our native Orchids is more showy or more easy to grow than the Early Purple Orchis (*O. mascula*), which is frequent in pastures and copses throughout the British Isles; a group of it looks delightful in the rock garden or border in May. It is followed in June by the Spotted Orchis (*O. maculata*) with whitish flowers marked with purple lines: this prefers rather moister conditions than the last. Natural hybrids between it and the Marsh Orchis group are not uncommon, and some of these are handsome and robust plants. The puzzling Marsh Orchis group (*O. latifolia*, *O. praetermissa*, *O. incarnata*) yields some very fine dark purple forms, which are striking plants for a wet, boggy spot. The remaining members of the genus *Orchis* are all, on the other hand, dry-soil plants. The only ones which are not rare and local species of S.E. England, and very seldom seen in cultivation, are the Pyramidal Orchis (*O. pyramidalis*) and the Green-winged Orchis (*O. Morio*). Both like a dry, limy soil. The former has a dense spike of bright rose flowers, and a clump of it is very effective; the latter is a smaller plant with deep purple flowers. Both are easy to grow.

The native Butterfly Orchids (*Habenaria*) include two species, *H. chloroleuca* and *H. bifolia*, which are worth growing. They have loose spikes of greenish-white flowers, and like a moist soil. A third species *H. intacta*, sometimes placed in a separate genus *Neotinea*, is very interesting on account of its distribution. It is a Mediterranean plant which most unexpectedly pops up again in the West of Ireland, growing mostly among limestone rocks. It is of quite easy cultivation, but is a rather inconspicuous little plant with whitish flowers (not red, as figured in Sowerby's "English Botany" and elsewhere).

The allied genus *Gymnadenia* has two British representatives, one of which, the Sweet-scented Orchis (*G. conopsea*) is an acquisition in any garden, on account of its handsome dense spikes of purple flowers and strong delicious odour of Pinks. It likes a strong moist soil.

The most striking of all the British Orchids are the three species of the genus *Ophrys*. In this group the flowers have conspicuous markings in brown, red or yellow on their curiously shaped labellum which give them to a remarkable degree



CONES OF *ABIES WEBBIANA BREVIFOLIA*.

the appearance of insects or other arthropods, so that the names of Bee Orchis, Fly Orchis, and Spider Orchis, bestowed upon our species, are by no means fanciful. This group, which would be delightful in the garden, is singularly difficult of cultivation. I once persuaded the Fly Orchis to flower two seasons in succession, but never kept the Bee Orchis for more than a single year, even when brought into the garden in a solid sod of turf. All favour light, limy soils, and all but the Spider Orchis are found in Ireland, the beautiful Bee Orchis having a wide range therein.

The Helleborines (Epipactis) are a group of rather tall, leafy plants, with flowers of white, purple or green shades. *E. latifolia* is a woodland plant, tall and slender (up to 3 feet in height.) Given shade and humus, its cultivation offers no difficulty. *E. atrorubens* has purple flowers, and is a rare plant of limestone rocks; I have found no difficulty in growing it. *E. palustris*, the Marsh Helleborine, with pretty flowers with a large fringed pinkish lip, is the most striking of the group. It differs from most of the British Orchids in having a creeping rhizome, and likes wet peaty ground; a fine clump of it may be seen by the lake at Glasnevin.

The genus *Spiranthes* (Lady's Tresses) includes several British species, smallish plants with greenish-white flowers arranged in one or more spiral rows, and characterized by a delicious fragrance. *S. autumnalis*, the last to flower of British Orchids (Aug.-Sept.), is a little plant of limestone pastures, still lingering in the Phoenix Park and frequent in the West of Ireland. I have found it hard to grow, but I have a photograph of a specimen nearly a foot high grown in a back garden in Hammesmith. The most interesting of this genus is *S. Romanzoffiana*. This plant is frequent in the Lough Neagh basin, and also occurs in Co. Cork. Otherwise it is American, ranging right across the northern States and Canada, and just crossing Behring Straits into Kamchatka. In the garden slugs are woefully fond of it, and I have never succeeded in evading them; for the rest, it likes a quite wet soil, and can live where it is under water during the winter months. Its flowers possess a most delicious vanilla-like fragrance. *Goodyera repens*, the Creeping Lady's Tresses, is allied to the last genus. This is almost the only Orchid which in Britain

has a distinctly northern range, being confined to Scotland and found chiefly in the northern part of that country. It creeps extensively among the rotting needles of pine woods, and is a graceful plant with small white flowers.

The *Cephalanthus* have three representatives in Britain, tulshish plants resembling the Helleborines, with white or red flowers and creeping rootstocks. I have not seen any of them in cultivation, though they are striking plants.

The Twayblade, *Listera ovata*, is of easy culture, but its small green flowers are not effective. On the other hand, the Lady's Slipper, *Cypripedium Calceolus*, is a most striking and desirable plant. In attempting to grow it, we should remember that its natural habit is in thickets among limestone rocks. It requires therefore good drainage, a limy soil, and not too much sun, if the natural conditions are to be imitated. It is one of my few successes among native Orchids. A single root planted on the flat some ten years ago now produces annually a clump of about eight stout stems, each with two or three great yellow and brown-purple flowers, and it sets seed freely, which I am told is rare in British gardens.

In conclusion, mention may be made of two very curious leafless saprophytes, living in woods on decaying vegetable matter. The one, *Epipogon aphyllum*, is the most extreme rarity, but the other, the Bird's-nest Orchis (*Neottia Nidus-avis*) is not uncommon in our woods, especially under Beech-trees, the whole plant in its brown colour matching the dead leaves among which it grows. I have tried this plant more than once with indifferent success, and do not know whether others may have had better luck.

The Himalayan Silver Firs.

By PROFESSOR A. HENRY.

THERE has been some difference of opinion with regard to the number of Silver Firs in the Himalayas; but judging from herbarium specimens and living trees in cultivation in these islands, there are at least two distinct species, *Abies Webbiana* and *Abies Pindrow*. The cones which are remarkable for their large size and beautiful blue colour when growing, are similar in both species, differing merely a little in the shape of the bracts. In all other respects the two species are very different. *Abies Pindrow* is a tall narrowly pyramidal tree with short branches, and smooth bark on the young stem and branches. *Abies Webbiana* is a much broader tree with wide-spreading branches, and very scaly bark rather like that of a Spruce than a Silver Fir. The twigs on *Abies Pindrow* are smooth, not in the least furrowed when fresh, and devoid of hairs. In *Abies Webbiana* the twigs are remarkable for their deep furrows, which are clothed with brown hairs. *Abies Pindrow* has long narrow leaves irregularly arranged on the branchlets and only slightly paler beneath than above, the two bands of stomata on their lower surface being greyish and inconspicuous. In *Abies Webbiana* the leaves are pectinately arranged, spreading regularly on each side, with a V-shaped depression between the two sets. The leaves usually range to two inches or more in length, and are beautifully white under-

neath, owing to the snowy colour of the conspicuous pair of stomatic bands.

The distribution of these two species is very distinct, typical *Abies Webbiana* occurring in the Eastern Himalayas, from eastern Nepal to Sikkim. *Abies Pindrow* is restricted to the western Himalayan region, in the Kurrum Valley, Chitral, Kashmir, Kumaon, etc.

In certain parts of the western Himalayas another Silver Fir is met with, which grows at a higher elevation than *Abies Pindrow*. This appears to be a geographical form of the eastern species, and was distinguished by me in "Trees of Great Britain," iv., 751 (1909), as *Abies Webbiana*, var. *brevifolia*. This tree agrees with *Abies Webbiana* in the characters of the twigs, which have the same brown pubescence in the furrows, and bears the leaves in a regular V-shaped arrangement. The leaves, however, are considerably shorter, about an inch in length, and much less showy in colour, as the stomatic bands beneath are merely whitish, not snowy-white as in *Abies Webbiana*. The cones are similar in colour to those of *Abies Webbiana*, but are much smaller, scarcely exceeding $3\frac{1}{2}$ inches in length and 2 inches in width, with scales, bracts, and seeds also diminished in size.

The early scaling of the bark on the stem and branches is noticeable in var. *brevifolia*, but is occasionally not so well-marked as in *A. Webbiana*. Some variation also occurs in the length and colour of the leaves. Whether the two forms intergrade or form two distinct species can only be decided by further field study in the Himalayas.

Var. *brevifolia* is rare in cultivation; but specimens exist in Ireland at Glasnevin, Kilmacurragh, Powerscourt, and Charleville, near Bray. In England, trees occur at Shronev Wood, Winchester; Holker Hall, Lancs; and Batsford Park, Glos. The tree at Glasnevin was raised from seed, sent from the Himalayas in 1879, but without any precise record of the locality. The tree, though healthy, has grown very slowly, measuring at present 25 feet in height, and 1 foot 10 inches in girth, at 5 feet. It is now bearing small cones for the third time, which do not contain any fertile seed. This variety is much inferior to the type in beauty of foliage and cones, but is probably hardier.

Everlasting Flowers

A Plea for their Wider Culture.

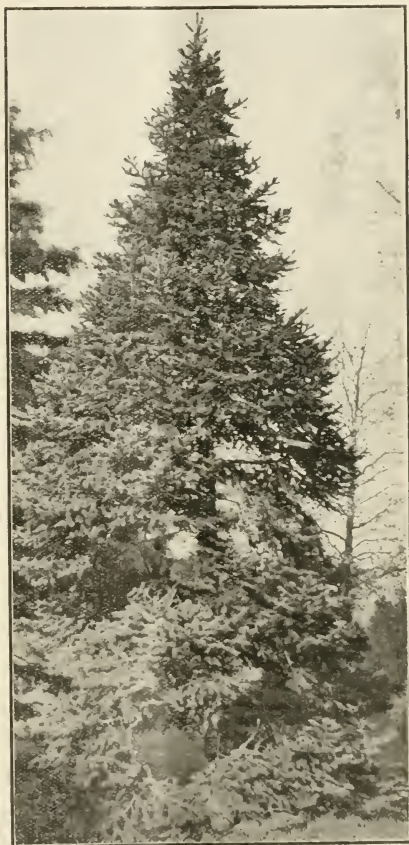
We have amongst hardy perennials, biennials, and annuals certain plants, the flowers of which do not merely give pleasure for a few days after they have been gathered, but will last for months, if cut just at the right stage. We call these—perhaps for want of a better term—"Everlasting" flowers. It is not everyone who possesses a greenhouse from which during the winter, flowers may be obtained, but anyone having a garden can, if desired, provide flowers that at least in the depth of winter will not fail to attract.

In the near approach of spring is the time when it is best to make arrangements. In perennials, we have Globe Thistles, the Echinops, Sea Hollies, the Eryngiums, Physalises or Chinese Lanterns, *P. Alkekengi*, with pods or calyces of deep orange and *P. Franchetti*, with those of brilliant red. Gypsophilas too, with their graceful sprays are useful for making up, and add a touch of light-

ness desired. *G. paniculata*, the well known "Gauze flower," and *G. paniculata alba plena* the double form, the individual flowers of which are more pronounced. The panicles of Statice also are of service to the seeker of flowers this month, and *S. latifolia* with its miniature bluish purple blossoms is worth consideration.

One biennial at least may be counted upon to add brightness to a vase of "Everlastings." It is the time honoured favourite, Honesty (*Lunaria*) with glistening silvery pods, a plant well beloved of country folk who grow it for its white and purple blossoms, but more for the pods which follow. Annuals furnish us with a few that are useful for the purpose, Helichrysums, known as Everlasting Daisies in white and crimson and yellow. Acroclium, a smaller daisy, and Rhodanthus more slender and fragile still, more satisfactory if grown on a warm sheltered border.

Planting and Sowing—The perennials named



ABIES WEBBIANA BREVIFOLIA AT GLASNEVIN.

may be planted in March in the open ground, any moderately good soil will suffice, but they should be located in the "sunshine line" and not near the shade of trees.

The annuals can be sown either in a greenhouse or cold frame, and subsequently planted out or sown out of doors at the end of April or early in May.

Adjuncts—Sprays of lavender, of bracken or heather, with a few field grasses will add variety and in deft fingers make a most interesting arrangement for brightening a room in the dull season. W. LINDELS LEA

Rock Plants.

LAST month, in discussing the construction of the rock garden, mention was made of the advantage of having various aspects and positions formed in the course of building up the rock garden. Thus numerous flat pockets occur, and likewise vertical fissures formed by two adjoining stones or cracks, made by the use of several stones arranged in the form of a boulder. All these positions and aspects have their uses in the cultivation of the choicer alpine. Some gardeners, keen on the proper placing of stones, claim that all should have a slope inwards towards the soil with a view to conducting rain to the soil, but an occasional overhanging stone, that is, one which partly overhangs the pocket below, has its uses. By keeping moisture from falling on that part of the pocket overhung, it provides a first-rate position for some choice plants, which like dry conditions and hate overhead moisture. Two such gems are the Chinese Fumitories *Corydalis Watsoni* and *C. tomentosa* beautiful grey-leaved dwarf alpine, both with yellow flowers and which we owe to the energy of Mr. E. H. Wilson. *Corydalis thalictrifolia* also introduced by the same collector is equally beautiful, with green leaves and yellow flowers, but, though growing freely in the open all summer generally succumbs in winter unless in a position sheltered from excessive wet and protected from above from frost.

Among alpine *Androsaces* are rightly first favourites. The genus is a large one mostly of rare beauty and in some cases not difficult, yet the majority are impatient of our wet winters. To overcome this difficulty recourse is had to covering with sheets of glass from late autumn until early spring. In this way many fine colonies of *Androsace lanuginosa*, *A. sermentosa* and its varieties or hybrids Chumbyi and Brilliant are kept safe through winter wet and produce abundantly their pretty flowers in spring and through the summer. It may be, however, that planted under the shelter of an overhanging stone and in a sunny position the glass covering could be dispensed with. The vertical position has much to recommend it in the culture of such plants and good specimens have been grown on properly constructed retaining walls, the roots finding sufficient moisture between the stones and in the soil behind while the shoots and rosettes of leaves hang dry and airy down the face of the wall.

For the very small tufty growers such as *Androsace alpina*, *A. ciliata*, *A. cylindrica*, *A. helvetica*, *A. imbricata*, *A. pubescens* and such like a vertical fissure would seem to offer the best chance of success, or alternatively the moraine with a covering of glass in winter. It must be confessed that several of these are not often found in collections for any length of time, but further

experiments may evolve a means of growing and keeping them.

Another genus occasionally difficult to establish is that of *Acantholimon*, the so-called Prickly Thrifts. One or two are well known and are frequently seen in good condition, notably *A. ciliatum*, *A. glumaceum*, and *A. caesium*, yet often young plants fail to establish. A bright sunny position in deep gritty soil is necessary, and the tufty growths should be kept from contact with the damp surface of the soil either by placing stones close around the plants or preferably by planting small plants in cracks between stones so that the shoots will spread out and lie on the stones; in this case the cracks need not be vertical.

*Ethiœnum*s rightly enjoy great popularity among lovers of rock plants, and in their season they contribute much beauty to the rock garden. They all enjoy full sunshine, the most perfect drainage and poor stony soil. In vertical fissures and old walls they flourish, species like *A. grandiflorum*, forming thick hard woody branches from which arise slender shoots in spring terminating in corymbs or racemes of pink, rose or pale yellow flowers. Of the species fairly general in cultivation in addition to *grandiflorum*, there is *A. acuminatum* dwarf and compact with heads of pink flowers, *A. cordatum* with yellow flowers, a scraggy plant which should be cut back periodically to keep it in shape, *A. cordifolium* often sold as *lævis jucunda*, with heads of fine pink flowers, *A. ibericum* a dwarf twiggy plant soon spreading into a good sized clump and bearing white flowers, *A. pulchellum* in the way of *A. grandiflorum* but more glaucous and with flowers of paler pink, *A. anagnum* is somewhat intermediate between *grandiflorum* and *pulchellum*, glaucous like the latter but with larger finer flowers. Several others are to be met with occasionally, all loving the sun, a gritty soil and sharp slope.

Myosotis are many, mostly with yellow flowers, some white and all tolerably easy. *A. spinosum* with hoary leaves and spiny branches, has white flowers, and a variety *A. spinosum roseum* has pale pink blossoms; both love a sunny position in gritty soil wedged in between stones.

Anemones are numerous and in many cases beautiful, though some from a purely ornamental view are of little value. With few exceptions they are easy to grow. All the beautiful forms of the Wood Anemone respond freely to cultivation in well-drained soil, and the Pulsatilla section is equally accommodating. *A. apennina* and *A. blanda*, are frequently almost too aggressive, while the Wood Ginger, *A. ranunculoides* and its varieties, grow and spread freely in any moist position. The *Hepaticas*, too, though slow at first eventually grow into stout tufts, in good stiff soil, and flower annually with great freedom. *A. narcissiflora* is a beauty when well grown, but does not always succeed apparently rather resenting too damp conditions in winter, since spring not seldom finds it missing. A friable soil damp in summer but which does not become sodden in winter seems to be what it wants. It is wise to sow seeds frequently, as young plants are most vigorous and satisfactory. When growing and flowering freely it is a beautiful plant, with its umbels of white flowers over fern-like foliage. *Anemone rupicola*, a beautiful plant from the Himalayas, sometimes disappears. It is said that two forms of this exist, one tufted and non-spreading, the other throwing out runners which may easily be destroyed if too much forking be indulged in its vicinity. The leaves are lobed into three, the lobes further incised while the flowers of

good size are white; a fine plant for a moist place at the base of the rockery in friable damp soil.

Anemone vernalis is a plant of the high Alps—H. Stuart Thompson, says, "dry alpine and sub-alpine pastures 3,500-9,000 feet"—and is perfectly dwarf, hugging the surface of the soil. It is fairly easy in cultivation, growing well in a sunny position, sharply sloping in deep gritty soil. The almost prostrate leaves are densely hairy as also is the flower which is large, white within and bluish without, opalescent in effect.

Aphyllanthus monspeliensis, a strange looking plant of the Lily family, produces tufts of green Rush-like stems of about a foot or so in length. The leaves are small and inconspicuous, their functions being performed by the green stems. In warm summers blue flowers are borne at the summit of the stems when the plant is rather pretty. A hot sunny position in friable soil suits it well, although in warmer countries it affects half shady places.

Aquilegas are legion but rarely obtainable true to name and even when secured tolerably true, seedlings thereof have a habit of resembling anything rather than species. For the rock garden the best are *Aquilegia alpina* a dwarf and beautiful plant about 9 inches high in gardens and bearing very lovely smoky blue flowers; an equally dwarf and lovely plant is *A. Bauhini* (*A. pyrenaica* of some) of similar habit but with flowers of deeper blue; *A. glandulosa* of gardens is a more robust plant reaching a height of two feet when doing well and bearing very beautiful flowers, blue without and white within; it requires cool treatment in moist soil and not too brilliant sun. Several other alpine columbines are much to be desired for our gardens, a few of which were briefly alluded to by Mr. Correvon in *Irish Gardening* for 1915, p. 54, and it is to be hoped some enterprising Swiss nurseryman will make them available to Irish gardeners.

Asperula suberosa with slender brittle stems clothed with whorls of woolly leaves is one of the gems of the rock garden. It loves a sunny position in gritty sandy soil, and should be protected from winter wet. If it can be established in a chink or crevice where it can hang down, its chances of surviving without covering are increased.

Asperula Gussonei with short stems densely furnished with green leaves flourishes under similar conditions and like the former bears heads of charming pink flowers.

A. hirta is easier, soon growing into a wide mat and bearing freely all summer its clusters of rosy pink flowers.

Astilbe simplicifolia is quite a charming plant for a moist pocket low down on the shady side of a rock; it bears pointed, toothed leaves, and in summer sends up panicles of white flowers of the daintiest beauty.

Calcolaria plantaginea is a beautiful plant for the small bog forming clumps of broad leaves, and producing in late summer panicles of yellow flowers on stems a foot or more in height.

C. polyrhiza prefers rather drier conditions but still moist, revelling among ferns and running about freely; it has smaller, narrower leaves than *plantaginea*, and shorter more slender flower stems, carrying fewer flowers, but of the utmost elegance and yellow like the last.

C. John James is a hybrid between the two and wonderfully intermediate and I think more floriferous than either.

Campanulas are legion, many of them easy and we pass the great mass included under *C. carpatica*, *C. portenschlagiana*, *C. garganica* and *C.*

pusilla, etc., and look at some of the daintier, more difficult though perhaps no more beautiful species.

C. excisa has given rise to more hopes and fears than almost the whole race of Bellflowers. Strange to say it flourishes in pots winding its thread-like runners round and round the ball of soil till almost nothing else can be seen, then sending up its fragile flower stems each bearing a single flower of deep blue with the characteristic excisions at the base of the tube. Planted out in light gritty soil it runs about freely in summer and appears happy, but alas; how often one watches and waits in vain for its reappearance the following spring. Winter damp is, I believe, fatal to the slender runners and the best chance of success would seem to lie in planting strong young plants in the moraine where copious supplies of water can be given all summer, then when the growing season is over cover with glass to protect from excessive wet. Alternatively plant in a crevice or close to the base of a rock where the rhizomes can pack themselves between or under the rocks and rest comfortably during the rainy season.

C. Raineri, the true dwarf spreading plant with large wide open bells of pale or china blue is one of the choicest plants for the moraine. There it runs and spreads freely, covering the ground with its pointed hoary leaves which in due season are almost hidden by a profusion of beautiful flowers, which only top the leaves and no more. In cultivation it flourishes in sun or shade but always asks for gritty friable soil whether in the moraine or in chinks and crannies.

Campanula Steveni is one of the "miffiest" of all Bellflowers growing apace for a time, often at first flowering profusely then wilts and dies away, rarely seeding with any prodigality though occasionally a few seeds are obtainable. The best plant perhaps is to keep a few stock plants if such can be accumulated and pick off the flower stems and propagate from cuttings of the shoots. Gritty cool soil in an open position suits this species well enough until it flowers, after which no treatment seems to keep it alive, though it is well worth persevering with since its pale lilac blue bells are attractive over the bright green leaves. *C. Steveni nana* is a dwarf counterpart and a better plant for the rock garden although with the same tendency to languish after flowering.

Campanula Tommasiniana is a dainty plant flourishing in stony soil and in the moraine, sending up a small forest of slender stems densely clothed with narrow leaves and bearing at the summit long tubed bells of light blue.

C. Waldsteiniana flourishes in like conditions throwing up a mass of stiffish shoots bearing broader more or less oval leaves surmounted at the ends of the shoots by flatter, star shaped flowers, deeper in colour.

C. Zoyzsi is another of the joys and also despairs of the lover of alpine. A dainty little gem whose greatest enemy is the common slug which will brave almost anything but a collar of zinc to crop the tiny luscious leaves. The plant grows well enough in stony well drained soil and flowers late in the summer producing, on stems two or three inches high, pale blue slender flowers of most unusual shape, narrowed to a neck near the apex and with the apex of each segment infolded so that the tube is practically closed. Yet despite the care required to succeed with *Zoyzsi* it is a gem of the first water and worth a deal of trouble in minding, in order to enjoy its strange yet charming flowers.

(To be continued.)

An Inquiry into Laurels.

SOME hundred or more years ago, in Ireland (and possibly elsewhere), everyone's ancestors must have been consumed with a passion for what we know as "Laurels."

Surely, it was very acute—more rabid than any herbaceous or rock-gardening mania since? In fact, I have often wondered if they had "laurel competitions" in those days, just to see how many of these enveloping shrubs they could cram into their demesnes.

In bygone times there was a rivalry in build-ings. I have stayed in the West of Ireland in a house of which the builder, in its beginning, fired with a desire to outdo a neighbour, bled himself off to the rival house, measured it, and built his own five feet longer! So it may have been in the matter of laurels.

I can imagine these planting worthies meeting at church or court-house throwing off a boastful remark, "Just put in 500 laurels last week!" and his fellow magistrate or churchwarden saw to it that he, in his turn, stuffed in at least a thousand of these Spanish atrocities.

What was their idea? or was it just a passing whim? Where did all these laurels come from? and how?

In the years between, these commonplace, *banal* shrubs have grown and layered themselves in the cunning way that they have, till they cumber the ground, blot out the beautiful boles of forest trees, deprive the eye of the exquisite ease of half distances, sour the soil in parts of gardens worthy of better things, and harbour starlings.

But, the back swing of the pendulum has come—laurels are doomed, and for some years past the demolition of them has been one of the chief occupations of the estate owner.

It is obvious that, though regarded as a curse in the landscape, laurels are a blessing in disguise at the moment, to the country gentlemen, providing healthy and needful exercise in these parlous winter days when guns and cartridges are not and hunting is only for the profiteer.

The modern 'boast often heard as you walk with a friend through his surrounding groves is:—"See that place? I cleared it of laurels *myself* last month. What? oh! yes—stubbed the lot—pick, monkey-jack and so on. I'm fed up with laurels—going to sweep them all."

Still—in this frenzy of destruction, one may pause a moment to review the good points of the pest and enquire into its uses. In winter, laurels give a good wholesome splash of green and reflect light in "patines of bright silver": in spring the feathery sprays of creamy heavy-scented blossom make an elegant design, especially against blue sky: and, the cherry laurel in fruit, in autumn, is a brave sight.

In rough, old woods, if they have grown to a great height, laurels have a certain dignity.

They do effectively shelter a woodcock, and they yield excellent firewood.

In the old estate account books here, we have found records of much planting and several kinds of trees, but never a mention of laurel! They are not indigenous—how did they come?

Finally, I am ignorant: tell me someone—What is the common or garden laurel?

I can't find it in any book—or, if I have, I do not recognise it. It is *not* *Laurus Nobilis*, or *Prunus Laurocerasus* or *Danea Laurus*, is it?

Surely, in all its blatancy, it has some distinctive name of its own?

MURIEL F. BLAND.

Potatoes for Gardens and Allotments.

FOR some years past a disease known as Black Scab has been causing much loss and inconvenience to potato growers in a limited area in the North-East of Ireland. The leading characteristic of the disease is an excrescence or warty growth which develops from the eyes of the tubers. At first these growths are white in colour, but later they become black, and finally develop into a putrid mass.

Certain varieties of potatoes such as, for example, *Epicure*, *British Queen*, *Up-to-Date*, and *Arran Chief*, are susceptible to the disease, and experience has shown that the disease is most commonly spread by means of seed of susceptible varieties from crops grown on infected land. Investigations have also shown that the disease is most likely to occur in gardens, allotments, and fields, where rotational cropping is not practised, and where portion of the ground is every year under potatoes. The only preventive measure at present known is to plant varieties known to be immune to the disease—of which there is a considerable number. Variety tests to discover the immune varieties best suited to Irish conditions are conducted by the Department each year. As a result of last year's trials the following varieties are recommended for cultivation in gardens and allotments:—

Earlies.

Resistant Snowdrop.—A remarkably heavy cropper. The total yield in last year's trials was 18½ tons per statute acre—15½ tons large, 2 tons seed; and ½ ton small and diseased. The tubers are white in colour and kidney shaped, and of good cooking quality.

Edzell Blue.—A late first-early or early mid-season. The tubers are purple in colour, round in shape and of good quality. The total yield in the trials was 15½ tons per statute acre—13½ tons large; 1½ tons seed; 16 cwt. small and diseased.

Dargill Early.—A new immune variety which in last year's trials gave a total yield of over 14½ tons per statute acre—12½ tons large; 1½ tons seed; and 7 cwt. small and diseased.

Arran Rose.—The tubers are oval and slightly pink. In the trials a total yield of 13½ tons per statute acre was returned—9½ tons large; 2½ tons seed; 15 cwt. small and diseased.

Second Earlies.

Great Scot.—A variety now very well known in many districts. The tubers are white in colour, and round to oval in shape. In the trials it returned a total yield of 17½ tons per statute acre—16½ tons large; 1 ton seed; 8 cwt. small and diseased.

Arran Comrade.—A variety extensively grown in Great Britain last year. The tubers are white in colour, kidney in shape, and of good cooking quality. The total yield in the trials was 16½ tons per statute acre—15 tons large; 1½ tons seed; and 9 cwt. small and diseased.

Maincrop.

Arran Victory.—The tubers of this variety very closely resemble those of *Black Skerry*, and are of excellent cooking quality. In the trials it gave a total yield of 15½ tons per statute acre—14½ tons large; 19 cwt. seed; 6 cwt. small and diseased. The planting of this variety in gardens and allotments is strongly recommended.

Irish Queen.—A very suitable variety for gar-

dens and allotments, which in most cases will be found superior to Champion as a maincrop. The tubers are pink in colour and round in shape. The total yield in the trials was 12½ tons per statute acre—11½ tons large; 1 ton seed; 9 cwt. small and diseased.

Kerr's Pink.—The tubers of this variety are pink in colour, round in shape, and are very similar to those of Irish Queen. The cooking quality is satisfactory. In the trials the total yield was 15½ tons per statute acre—12½ tons large; 2½ tons seed; 16 cwt. small and diseased.

Majestic.—An early maincrop. Tubers, white in colour, oval to long in shape. They grow very large but are not very numerous. As the variety is very liable to "miss," the seed should be carefully sprouted in boxes, and only whole sets planted. Total yield per statute acre 15½ tons—13½ tons large; 18 cwt. seed; 11 cwt. small and diseased.

Timwald Perfection.—The tubers of this variety are very similar to those of Up-to-date. Total yield in the trials 16½ tons per statute acre—13½ tons large; 2½ tons seed; 10 cwt. small and diseased.

When the unfavourable character of the season is taken into account, the exceptionally heavy yields obtained in these trials are remarkable, and furnish evidence that the cropping capacity of some of the immune varieties now available leaves nothing to be desired. The tests were carried out on soil of a light, sandy nature dressed with farmyard manure, and the Department's standard mixture of Artificial for potatoes. The plots were sprayed three times. — *Department of Agriculture and Technical Instruction for Ireland*.

Allotments.

Now that the days are beginning to lengthen, allotment holders will have an opportunity to get the plot in order for seed sowing and planting which will have to commence in real earnest in March. The majority of men have had practically no opportunity to get work done during January, so bad has the weather been. It should be the endeavour of each to wipe out these arrears of work as soon as possible, otherwise there will be a rush, and forced labour later on. When the allotment becomes a labour and source of worry to those of limited time, the pleasure of labour is lost and often results in the work being scamped over. Whereas it is in the preparation of the ground and the treatment of the soil to get good seed beds which means so much to the crops. Deep digging and thorough tillage mean a great deal, but it is apparent that the fact is not nearly realised as it should be.

SEED SOWING.—At the date of writing these notes, the soil will have to improve very much to make seed sowing a possibility on allotments during February. The exception will be very light and sandy soils. Parsnips are the most important crop sown early. Any soil which has been deeply worked, such as that occupied by the celery crop, is excellent for sowing seeds of Parsnips. Deep land well cultivated should produce clean even-shaped roots. Rake the surface soil down to get a good friable surface and draw the drills eighteen inches apart. The seeds may either be sown thinly along the drills or a few seeds dropped every nine inches or so. If it is impossible to get the soil into a suitable condition for sowing, Parsnips should be sown as early in

March as possible. The Onion crop is very often destroyed by the Onion Fly on allotments, therefore the best way to grow this crop under the circumstances is either to sow in the open ground in the autumn, or sowing under glass in the spring. The seeds may be sown in boxes of prepared soil, and raised with a little heat. The plants should be gradually hardened, and finally, thoroughly exposed to the weather, before planting out, which is generally done during the month of April. Where there is a small greenhouse on the plot, Tomatoes can be sown this month. It is, however, a much better plan for an allotment holder who grows Tomatoes without heat in the early stages of growth to visit a local nursery and purchase the plants when they are required.

SHALLOTS.—This crop should be planted at any time now. The ground should be fairly good and enriched with manure, to get good results. Press the bulbs firmly but not too deeply in the ground, in rows about one foot apart and about nine inches in the row. In the suburbs of towns, crows often pull the bulbs out of the ground. We usually have to tie paper shaped like the tail of a kite, and string the bed over.

JERUSALEM ARTICHOKEs.—These are often left in the ground year by year, until the tubers degenerate so as to be hardly worth lifting for consumption. Now is a good time to lift the whole of the crop. Select the largest for eating purposes, and the tubers of medium size may be planted again. The ground should then be well manured, and the tubers planted about six inches deep. A row at the end of the plot, or any place where a screen or hedge is required will be a suitable place to plant. The tubers grow almost anywhere, but at the same time, they repay for good cultivation.

BROAD BEANS.—May be sown during February or March. The seeds are usually sown eight inches apart in a double row. Allotment holders often sow this crop in beds, but better results are obtained from double rows. Quite good crops can be obtained by dropping seeds among potatoes when these are being planted. Potatoes such as Great Scot and Skerries make a lot of haulm and are hardly suitable.

CABBAGES.—The Cabbage planted in the autumn should be looked over, and the gaps filled up in the rows; also remove any blind ones. About a teaspoonful of nitrate of soda around each plant will act as a stimulant. It is important also to use a hoe or cultivator between the rows to encourage the plants to grow.

POTATO ONION.—In the north the cultivation of this crop has declined, owing to disease, and the heavy cost of bulbs for planting. The ground requires to be well manured near the surface to enable the plants to withstand the drought. The bed should then be made firm. Press the bulbs in the soil just covering them in rows about twelve or fifteen inches apart and from six to ten inches between the bulbs according to their size.

RHUBARB.—If the spare roots are lifted and placed in a dark corner, young shoots will soon appear. The roots should be covered to conserve the moisture; or, old tubs or boxes can be placed over the roots in the ground. If the boxes are covered with litter, the shoots will come much sooner owing to the higher temperature inside the box. When kept in the dark they are more tender and juicy.

G. H. O

The Month's Work.

Midland and Northern Counties.

By MR. F. STICEETER, Gardener to H. B. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

ONIONS.—Onions that were sown in boxes last month for the production of large bulbs have germinated well and are ready for pricking out into frames or boxes. Personally, I prepare sufficient frames to hold the requisite number, making up a slight hot-bed of 3 part leaves and

dry enough to work without sticking to the boots or tools. Give a good dressing of dry wood ashes and soot, and a thorough raking to remove all stones, etc. Then draw shallow drills 12 inches apart, sow the seeds thinly and cover about a quarter of an inch deep, rake over the whole bed neatly and finish well. Carefully label each variety with date of sowing and where the seed was obtained (thus "Suttons," "Hogg and Robertson," "Drummonds," "Dickson's," or whichever firm the seeds were obtained.) James' Long Keeping is still one of the best varieties for this sowing. A few rows of Silver Queen should be sown for pickling and early use.

AUTUMN SOWN ONIONS.—Select a piece of ground heavily manured for the Autumn Sown Onions, get it into good condition as soon as the weather



ACANTHOLIMON VENUSTUM.

placing some 6 inches of the following compost over the whole surface:—2 parts of good loam, 1 part flaked leaf soil, 1 part dry wood ash and 1 part river sand with a good dash of soot; prick out the young seedlings 2 inches apart each way, give a thorough watering with tepid water and keep the lights close till the plants become established. Then gradually admit air on all suitable occasions. Give the beds a good forking over to get the ground into first-class condition as soon as the weather permits. For the main sowings, seed can at any time now be sown in boxes ready for planting out later, a far greater weight of produce will be reaped if this method is adopted. These seedlings need not be pricked out, simply planting them out of doors when the conditions are favourable. Where there are no conveniences for raising the crop under glass, the beds must be prepared for seed sowing as early as possible. Choose a plot that has been well worked and manured, fork over the surface when

permits. This is a very hardy crop and requires to be placed in its permanent quarters as soon as possible; add a good dressing of soot and wood ashes and rake over the surface to obtain a fine tilth. Allow 12 inches between the plants and 15 inches the rows. Lift very carefully from the seed beds and use the medium and small plants, large plants often run to seed in place of bulbing. As soon as the plants become established, run the Dutch hoe between the rows, and give occasional dustings of soot. White Leviathan is an excellent variety for earliest supplies, Giant Red, Italian and Lemon Rocca forming a good succession.

SHALLOTS.—If not already planted Shallots and Potato Onions should be attended to at once. Prepare a well tilled piece of ground in a warm position—remembering this crop is harvested early and permits the ground being used for another crop during the summer—draw shallow drills 12 inches apart and press the bulbs into the ground about 10 to 12 inches apart, run the

Dutch hoe between the rows as soon as growth is observed.

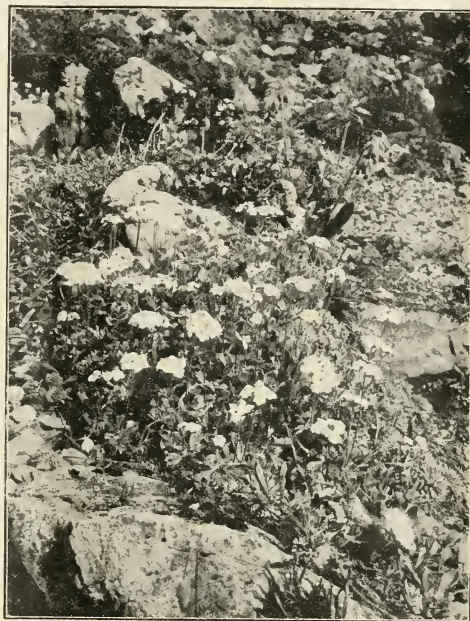
Globe Artichokes may safely be planted this month, and as they occupy the ground for several seasons, the ground should be thoroughly well tilled and manured; plant them in rows 5 feet apart and about 4 feet from plant to plant. Give them a mulching of long litter as soon as planting is completed.

There are many inferior strains of this excellent vegetable in cultivation, which produce massive open heads. The best strain that I am acquainted with comes from the South of France and is obtained from Messrs. Vilmorin. Seeds may be sown in boxes of sandy soil and potted off when large enough and grown in a warm house.

which sow 4 or 5 seeds, cover with similar compost and rake over the whole bed, leaving a smart finish. Tender and True, The Student, or Hollow Crown are excellent varieties.

CARROTS—Where Early Horn Carrots were sown last month, they are now well up and requiring very careful attention as to airing and spraying; admit a little air on all possible occasions, spraying with tepid water and closing the lights at 2 o'clock. Give an occasional dusting of soot, and watch for slugs, etc., another sowing may be made of the same varieties and under similar conditions. Radishes sown between the rows must be drawn and used before the foliage interferes with the carrots.

BROAD BEANS—Make a good sowing of Exhi-



ANDROSACE SARMENTOSA IN A MORAINÉ.

PARSNIPS—This valuable vegetable requires special treatment and a very long season to bring it to perfection, it is also advisable to give the crop a different piece of ground each year. Trench a piece of open ground, adding a good dressing of leaf soil, sand and burnt earth and wood ashes, from the smother fire; work in some good lime between each layer of soil, and as soon as the soil is in good condition sow the seeds thinly in rows 18 inches apart. Where Exhibition roots are required, bore holes with an iron bar 3 feet deep, 2 feet apart in the rows and 15 inches from plant to plant. Fill with finely sifted soil from the soil shed and firm with a bamboo, leave a small indentation at the top on

bition Long pods. For Broad Beans select a good open site well trenched and manured with thoroughly decomposed manure. Sow in rows 3 feet apart, and according to the requirements of the Kitchen. Beans that are being brought along in boxes for planting out, must be kept growing in cold frames and give air on all favourable occasions, keep them as sturdy as possible, otherwise they will become drawn and likely to prove a failure, look over them every morning for water, and give thorough soakings.

POTATOES—Where the earliest Potatoes are grown in fruit houses, started in December, it will be advisable to move them to cooler houses, otherwise with the rising temperatures and

foliage overhead they will become weak and drawn. Potatoes growing on hot beds and heated pits may be given a little warm soil to the growths when large enough, and air given more freely. Preparations must be made for the first outside plantings, a good position is under south walls between the fruit trees, take out about a foot of the old soil and add a good fresh compost, with plenty of leaf soil, plant closer than on the borders, as they will be ready for use early in June.

PEAS—Continue to make sowings of the First section Peas on south borders. Should the Chef or Cook be an expert vegetable Cook do not sow white seeded Peas, make sure you get a first quality variety and green; good marrowfats take about 18 weeks before they are ready for use this time of the year and 16 weeks next month. By careful timing and observation one can keep a good succession from May to November in favourable seasons.

SEED SOWING.—Small quantities of Brussels Sprouts, Celery, Cauliflower, Leeks, Cabbage, Lettuce, Cos, and Cabbage, Tomatoes for main crops, and Cucumbers require raising in boxes and pots for earliest supplies. Egg plants and Capsicums requiring brisk heat, should be sown towards the end of the month.

GENERAL WORK—Get sufficient manure together and turn several times for celery trenches. Keep all hot beds well lined, and all work pushed forward as fast as possible, protect the Cabbage bed from pigeons and draw a little soil up to the collars of the plants in fine weather, they are very early this season. Harbinger turning in on south borders. Keep the hoe well plied between the rows of Spinach.

THE HARDY FRUIT GARDEN.

FRUIT ROOM—Keep a sharp watch on the fruit still in the fruit room, it is very liable to decay from now onwards, and to keep the supply going till June this season will prove fairly difficult, owing to shorter supplies. We still have good specimens of the following varieties:—Crimson Bramley, Bramley's Seedlings, Sandringham, Newton Wonder, Wellington, Hanwell Souring, Annie Elizabeth, Chelmsford Wonder, Northern Greening, Striped Beefing and Lane's Prince Albert, culinary varieties; and the following Dessert:—Cox's Orange Pippin, Blenheim Orange, Cockle Pippin, Christmas Pearmain, Sturmer Pippin, Dutch Mignon, Brownlee's Russet, Boston Russet, Royal Russet, and Livermore Favourite. We are testing a good many of the new varieties, they are keeping wonderfully well up to the present, William Crump is in splendid condition. I had 50 fruits of Worcester Pearmain reserved on the top shelf close to an open ventilator, although an early apple it keeps in good condition till March, but one of my nimble garden lads found he could reach them, so his gain was my loss. Of course I do not recommend the latter variety for late use. I am only stating its keeping qualities. The following Pears are giving us some choice dessert at the present time, Josephine de Malines, Winter Nelis, Easter Buerré, Glow Moreau, and Bergamotte Esperen, and Culinary varieties Verulam and Cartilage; by this list one can see how useful these late varieties are and worthy of more extended planting. There are plenty of varieties in season from September to December. Lord Hindlip is a most excellent dessert variety that everyone ought to grow. Our trees of this variety are only recently planted and

not fruiting yet. Keep the fruit room as cool as possible and open the ventilators night and day when the outside glass is above 38°. The floors if cement or bricks must be kept damp; this will help to keep fruit firm and plump.

PLUMS—Complete the training and pruning of all Plums as speedily as possible. Where the spurs have become unsightly it will be advisable to cut them right back, treating a part of each tree every season until they are refurnished with close fruiting buds, remove a portion of the surface soil replacing with good loam and lime rubble. Plums require a plentiful supply of lime at all times. Examine the borders for water every week. Should any of the trees be making excessive growth, have their roots examined and the strong coarse ones shortened back. Standards growing in the open and in orchards may have their branches thinned where too thick. If silver leaf is in existence grub out the trees and burn every particle.

APPLES AND PEARS—If the pruning is not yet finished, get it finished as early as possible, cleaning up and burning all prunings. Give the trees a dressing of well-rotted manure and the ashes from the smother fire. Where new orchards are in contemplation it is advisable to prepare the site beforehand, cropping with potatoes to clean the ground. The trees can then be planted early in the autumn and will start rooting right away. Before trying too many varieties, pay a visit to a good fruit grower, and ask his advice as to the varieties that succeed in the neighbourhood.

SPRAYING.—Where lichen, moss, and parasites are present, the trees should receive a thorough spraying with one of the special Caustic alkali preparations advertised in *Irish Gardening*. Choose a still day, and give the trees a thorough drenching from the tips of the growths to the base of the trees. Protect the operator's clothes and boots, and use rubber gloves. Use according to directions given with each preparation.

PEACHES AND NECTARINES—If the trees were tied to stakes away from the walls as recommended, they may now be placed in position and trained to the walls again, tie the growths as straight as possible, allowing 6 inches from shoot to shoot; if wires are provided, the matting should be twisted once round the wire which brings the bark close to the matting instead of the wire, which is injurious. If nailing has to be done, use matting in preference to shreds, make a thoroughly neat job of the training, the object should be to cover the space with fruiting wood from the stem to the extreme tip. Watch that all the ends of the shoots are securely fastened, tying with reef knots, which will not come untied. Thoroughly clean the borders when all is finished, and give full bearing trees a dressing of artificial manure and top dressings where necessary and neatly fork over the whole border. The protecting materials should be in readiness for placing in position as soon as the flowers open.

SMALL FRUITS—Finish the pruning and cleaning of the small bush fruits as soon as possible, burning all prunings. Give a dressing of manure before forking over the squares, and lime dusted over the trees will prove beneficial. If birds are troublesome the safest plan is to put the nets on, this will also help to keep a few degrees of frost away. Bullfinches started on our Prunus in the pleasure grounds at the end of December but I am thankful to say have not yet got inside the garden walls.

LABELS—See that all labels are in position and

in good order. Watch very carefully that the wire does not cut into the branches, or it will soon cause great damage. Any trees that are being moved by the winds must be securely staked and fastened as it is impossible for a tree to root, that is constantly being moved at the roots.

FLOWER GARDEN AND PLEASURE GROUNDS.

SPRING BEDDING—All beds containing Spring flowering plants must be constantly stirred with a small fork and all vacancies filled up from the reserve garden, give an occasional dusting of soot and keep a sharp look out for damage by birds, rabbits, and rats, etc. Put a small stick to Hyacinths before the spike is at all long, and a neat sliding tie, that is do not twist the material round the stick, otherwise it may break the truss right off. Wallflowers have been flowering more or less all the winter. Snowdrops, Aconites, Crocus, Helleborus, and the earliest Narcissi are making a bright display at the time of writing and the bulbs are coming through the ground very fast; even May flowering Tulips on north borders are well up.

SUMMER BEDDING—All cuttings rooted in boxes last autumn will require potting off singly as soon as possible. When one has the convenience it is advisable to pot them as soon as rooted and give them a shift into 5 or 6 inch pots, the summer seasons are so very short that unless one has good specimens to plant out in June, the display is delayed until September when the frosts are expected. Keep all the flower buds picked off for the next 3 months, and the tips pinched out to make good bushy stuff. When stopping plants, only just take out the point, and leave every leaf possible. The reason for this is that all pinching and stopping are checks to plant life. I fully believe that gardeners would obtain far better results by following nature and allowing the plants to feed through the lungs or leaves, than by feeding the roots and souring the soil in which the plants are growing. This latter is not a healthy practice, although adopted by nearly every plant grower.

CUTTINGS—Where the stocks of various plants are not sufficient, no time should be lost in making good all deficiencies. Soft cuttings such as Heliotropes, Ageratum, Salvia, Marguerites, etc., will root readily now in boxes of sandy composts and covered with glass, in a warm house. Zonals are better rooted on a shelf near the glass, shade from strong sun, and water thoroughly with tepid water.

SEED RAISING—Prepare sufficient soil at one time for seed sowing, using 2 parts loam 1 part leaf soil and 1 part river sand. I always use sterilised soil for this purpose, by this means all insects are killed, thus saving one the annoyance of seeing small worms or slugs on the surface after the seed is sown. Crock the requisite number of boxes and pots, the latter, half full if for very small seeds, such as Begonias, or Gloxinias, etc., place some coarse flaked leaf soil over the crocks and fill the pot to within half an inch of the top, make firm with a planed piece of board for the boxes and a smooth pot for the pots, sow the seed evenly and thinly over the surface and just cover with very fine soil, place in a warm house, cover with pieces of glass and shade from sun. Do not water for at least 24 hours, the reason for this is that the seed having been in a dry paper packet for some time should not be suddenly plunged on to the wet soil, but the husk of the seed germ gradually given time to soften. Many readers

may wonder why I have written these "details" it is owing to many enquiries as to failures to raise certain seeds, and as all seeds are tested before they leave the seedsmen, it is in nearly every case the sowers fault, in one way or another. Begonias, Verbenas, Petunia, Nicotiana Dianthus, Salpiglossis, Dahlia, Lobelia, Salvia, Iceland Poppies, Penstemon, Nigella, Perilla, Mimulus, Delphiniums, Hollyhock, Gaillardia, Cosmea, and Campanula may be sown now, for the summer display.

SWEET PEAS—If the trenching of the Sweet Pea quarters has not been carried out last autumn, no time should be lost in getting this important work finished using plenty of good manure and wood ashes from the smother fire. Where peas were sown and raised in pots last autumn, they will be greatly benefited by a size larger pot to hold them over till the end of next month if the weather is favourable. Another sowing should be made for supplying cut flower in August. Where they are to be employed in the bedding schemes grow quantities of one colour to tone with the other plants used. See that slugs are not troubling the young plants, looking over with the duty lamp at night and sprinkling soot between the pots. Give air on all possible occasions, and the lights right off in mild weather.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard Musgrave, Bart., Tourin, Cappoquin, Waterford.

THE KITCHEN GARDEN

BROAD BEANS.—A sowing may be made in boxes for planting out later, when the ground is fit to work on, make a sowing outside for succession.

CABBAGE.—As soon as soil conditions are favourable put out more plants from the autumn sowing to carry on an unbroken supply. Make good any failures in the drills of earlier batches, and keep the soil loose amongst the plants.

CELERY.—For an early supply, make a small sowing in pots of light soil, and start in gentle heat; when the seedlings are up keep as near the glass as possible. When fit to handle prick off into boxes filled with fairly rich soil, a layer of old mushroom manure placed in the bottom of the boxes will be of great advantage when planting out, as the plants will lift with good balls of roots, and receive very little check in the process, give strict attention at all time with the water pot or bolting will be certain.

CARROTS.—Towards the end of the month make a sowing of a stump-rooted variety on a warm border in shallow drills a foot apart.

FRENCH BEANS.—A further batch may be sown in pots to keep up the supply; with increasing sun heat and longer days forcing will be an easy matter now. Take precautions against the attacks of Red Spider by a free use of the syringe and tepid water; give some support to earlier plants by placing light twigs round them, applications of weak liquid manure will assist greatly to swell the pods.

JERUSALEM ARTICHOKE.—These may be planted on the first convenient chance, plant in drills 3 feet apart and 18 inches between the sets. Lift last year's crop if still in the ground selecting planting tubers, the remainder may be stored in sand and used as required.

LETTUCE.—Choose an early-maturing variety for

sowing in a frame and also on the early border. Early Paris Market and Commodore Nut are quick growing kinds, these will succeed those sown in the autumn.

ONIONS.—Those sown in boxes last month will be through the soil and should be placed in a light position and kept growing gently; avoid over-watering at this stage, but a light spraying with the syringe will be a help. As soon as the ground is in the right condition for working the main crop should be sown; thoroughly fork over the plot breaking up all lumps and leave it for a day or so to dry, give a dressing of soot and burnt refuse or wood ashes and tread the bed well, rake level, removing as many stones as possible, sow thinly in drills 1 inch deep and 15 inches apart, cover with the back of the rake, then raking length-way up the drills so as not to scatter the seeds. Sowing the main crop in boxes and transplanting in April is a better method, and becoming more generally practised.

TURPOLES should be planted out on well-prepared ground in drills 10 inches apart.

PARSNIES.—Take the first opportunity to get these sown as a long seasons' growth is required to produce good roots; choose a piece of rich ground where no fresh manure has been dug in, apply a dressing of wood ashes and a dusting of basic slag when raking the ground. Sow in drills 18 inches apart and 2 inches deep, planting a few seeds at 9-inch intervals along the drills when all but the strongest will be thinned out later.

PARSLEY.—Make a sowing in a pot or pan in gentle heat, pricking off in boxes when large enough to handle, finally planting out in April this will give a constant supply all summer and autumn of fine large leaves.

PEAS.—If the ground for the main and late crops was not trenched, prepare trenches two feet wide and the same depth, turn out two spits one placed on each side; dig in a good dressing of well-rotted manure in the bottom, then fill in the top spit, putting a layer of manure on top then fill in the remaining soil leaving the surface rough till required for sowing, allow a distance of 8 to 10 feet between the trenches. Make another sowing in boxes, and if conditions are favourable sow an early variety outside.

POTATOES.—Prepare mild hotbeds in frames for planting sprouted tubers, allow the heat to subside a bit before placing the soil which should be about 8 inches deep; as soon as the tops are well started give air freely to avoid spindly growth. A few sets may be planted on an early border or along the foot of a warm wall; some protection will be required for these against frost and cold winds.

RADISHES.—Sow in small quantities at intervals on the early border protecting the seeds from birds.

SHALLOTS.—Plant the bulbs on good rich soil, pressing them into the ground; a good plan is to draw small ridges 12 inches apart and plant the bulbs on these.

TOMATOES.—Make a further sowing this month to provide plants to succeed those sown in January, and also for planting outside; keep them growing near the glass to encourage steady growth exercising care in watering until the first fruits are set, when they will require a liberal supply. Plants intended for outside, should be grown into a six-inch sized pot and have the first truss of fruit set before planting out.

TURNIPS.—A small sowing may be made on the

early border about the end of the month. One of the best is Early Snowball for early use.

Owing to the wet weather digging will be in arrears, therefore, push on the work and try to make up time. Lift parsnips before growth starts, otherwise they will get tough and useless. Remove all decayed leaves from growing vegetables and stir the soil occasionally among the crops.

THE FRUIT GARDEN.

Work is sure to be in arrears in this department too, owing to bad weather, and every fine day must be taken full advantage of to push on operations, finish off the pruning of all trees and bushes as soon as possible. Up to the present, spraying has been out of the question and on calm dry days get it completed, as the buds will soon be getting a move on.

Any planting on hand may be carried on even if the soil is on the wet side by using some fresh dry soil from under cover, to place under and over the roots, filling up the remaining space with that taken from the holes, this can be pressed firm when it dries a bit. Peach and Nectarine trees on outside walls may now be tied up, as the buds are swelling and are easy rubbed off; leave a space of four to six inches between the shoots, and try and cover bare stems by tying young shoots over them, thus furnishing the tree all over with fruiting wood. I am of the opinion that peach growing outside is a waste of time, and not worth the trouble required for their protection.

Birds have been very troublesome among the fruit buds this year, and as we are prohibited the use of firearms they are difficult to deal with. Dust some lime over the trees and gooseberries that have been attacked which may help to check them.

Head down any trees intended for grafting, and when pruning select healthy scions of the desired varieties, burying them three parts their length behind a north wall which will retard the buds till required for use. All prunings and rubbish should be cleaned up as the work amongst fruit trees proceeds and consigned to the fire.

Examine the fruit in the storeroom at frequent intervals, and remove any that show signs of decay, these if not too far gone may be used for cooking.

THE PLEASURE GROUND.

Work in this department is not so pressing now apart from keeping the place clean and tidy. There are a few little matters which will claim attention during the month in the way of preparing for the summer display. When it is found the stock of bedding plants is short of the required number, stock plants should be placed in heat with a view to secure cuttings; Geraniums, Lobelia, Marguerites etc. and Heliotrope can be increased readily during the month. Pot off singly autumn-rooted plants and place in a warm house to start, afterwards grow them slowly and gradually harden off to a cold frame.

Dahlia tubers may be started into growth and when the shoots are about four inches long sever them with a heel inserting in sandy soil placed on a mild bottom where they will soon take root.

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MARCH
1921

EDITOR—J. W. BESANT.

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Rock Plants.

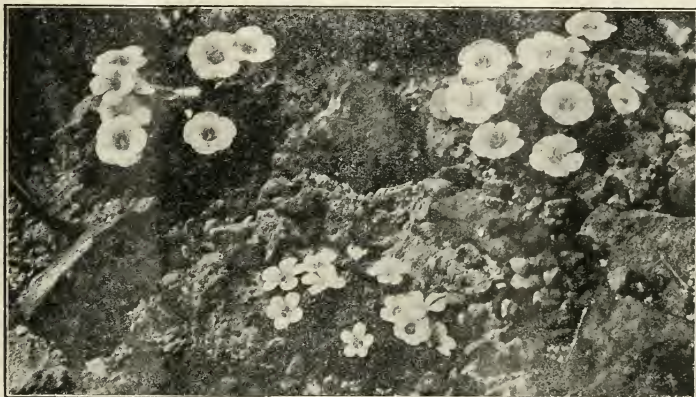
Cathcartia villosa is a lovely Himalayan Poppywort, growing about 15 inches high, and bearing yellow flowers over handsome, hairy foliage; it is best suited in one of the smaller bogs at the base of the rockwork.

Chamaetirium carolinianum is an interesting plant also for the small bog, where the soil conditions are moist, but not heavily saturated; the flowers which are borne in slender, wand-like spikes are white, produced in summer. The alpine Wall-

the flat " a pane of glass in winter is essential.

Chrysanthemum argenteum is a more robust plant 6 to 9 inches in height, forming a spreading dwarf bush. The leaves are less silvery, but still of a pleasing grey tone, contrasting well with other green-leaved plants. The flowers, produced in July, are white, but not highly attractive, the value of the plant being in its hoary foliage.

Codonopsis ovata is a plant of the Campanula family growing about a foot high, and bearing



SAXIFRAGA BOYDII AND S. FALDONSIDE

flower, *Cheiranthus alpinus*, is a really good plant when well grown. It should be given free exposure in soil not too rich, when it will produce in abundance its clear, yellow flowers. The alpine Wallflower is an excellent wall plant, and delights in lime rubble. Several other wallflowers are good rock plants, such as *Cheiranthus Marshallii*, *C. mutabilis*, etc., and all should be given plenty of lime and sunshine.

Chrysanthemum alpinum, a tiny dwarf "Margerite" with finely-divided silvery grey leaves and solitary heads of white-rayed flowers, is a delightful little alpine, hating too much winter wet, and consequently rather difficult to keep. The moraine, or a well-drained ledge or crevice, offers the best hope of success; if planted "on

bell-shaped flowers of a pale slaty blue colour without, and internally showing a beautiful combination of orange and white. Equally beautiful is *C. ovata* var. *himalayana* of similar habit but dwarfer. Both should be planted, if possible, on a fairly elevated part of the rockery and near enough the path to permit of an examination of the inside of the flowers. Among the "Bindweeds" there are some well worthy of inclusion among the choicest of plants, and one of the very finest for a sunny, well-drained position of *Convolvulus cantabricus*, with rather trailing shoots, clothed with narrow grey leaves, and bearing in late summer delightful rosy pink flowers.

C. incanus delights in gritty soil, and is indeed

rather aggressive and inclined to overgrow less invasive plants. It spreads freely by underground runners, from which the leaves and flowers arise; the latter are pale pink, while the leaves are a pretty silvery grey tone.

C. mauritanicus is of the habit of *C. cantabricus*, but has broader green leaves, and bears in late summer and autumn handsome violet blue flowers; both species should have a well-drained sunny position.

C. nitidus is a neat plant keeping quite close to the surface of the soil, forming a flat mat of growth. The leaves are silvery white and dislike winter damp, hence it is wise to cover with a pane of glass in winter.

Cornus canadensis is an interesting dwarf plant for a bog, rejoicing in peat or leaf-mould. The flowers are not important, but the white bracts accompanying them are not unattractive. In autumn the leaves become bronzy red and are then very beautiful.

Cyananthus lobatus is quite a good plant for moist, but free and well-drained soil. The trailing stems are furnished with small-lobed leaves, and the flowers, produced at the end of the shoots, are of a bright purplish blue, appearing in late summer.

Among Brooms suitable for the rock garden three are of outstanding merit; two of them are hybrids.

Cytisus Ardoini, quite a low dwarf species, forming a tuft of shoots about six inches high and bearing small hairy leaves composed of three leaflets; the flowers, produced towards the ends of the branches, are bright yellow.

Cytisus Beani, a hybrid raised at Kew, is one of the best really dwarf shrubs for the rock garden. It grows into a spreading mass of shoots, of procumbent habit, reaching a height of 9 inches to a foot, the roundish branches bearing small narrow leaves. The flowers, of a rich golden yellow, are produced in handsome sprays on the previous year's growth.

Cytisus Kevenensis must rank as one of the most popular of early flowering shrubs, forming a much-branched bush, ultimately perhaps 18 inches high, but spreading widely, it is a glorious sight when smothered in its creamy white flowers. To ensure an annual display and to keep the plants bushy and well furnished, all the early flowering Brooms should be cut back after flowering.

Delphiniums are usually thought of as border plants, but several are quite desirable on the rock garden.

Delphinium Brunonianum, growing about a foot high, is quite attractive when doing well. The flowers are purplish blue with black centre, while the leaves are comparatively large and deeply cut. This species is said to have a strong scent of musk, a quality which I have not particularly noticed in cultivated plants.

D. cashmirianum, growing about fifteen inches high, produces blue flowers of fair size, and has deeply-lobed, broad leaves on long stalks.

D. grandiflorum is perhaps the most showy of the dwarf Delphiniums, but cannot always be reckoned as a good perennial; seeds, therefore, should be secured and sown annually. The flowers, which are freely produced, vary somewhat in shade, but are usually of a good blue; there is also a white variety. The leaves are much divided into narrow segments, adding to the elegance of the plant. Several named forms of

this species are on sale, notably "Cineraria," "Butterfly," etc., but there is nothing better than saving seeds from good plants and sowing annually as mentioned above.

D. nudicaule is a fairly good perennial if planted in gritty, well-drained soil, kept moist in summer. The flowers are orange red and yellow, and a good group never fails to attract attention. It forms a somewhat tuberous rootstock, from which the rather fleshy, lobed leaves radiate, surmounted by the branching flower stems.

(To be continued.)

Balsams.

The value of a plant to-day is largely determined by the use its flowers are for cutting, no matter how beautiful they may be, and it is because the Balsam is of no service for the production of blossoms, apart from the plant, that a good many regard it with but scant favour. Notwithstanding this disability—and it is one we admit—these half-hardy annuals are very charming when grown as pot specimens for the decoration of conservatory or greenhouse; those who have not hitherto cultivated them have missed a wealth of colour and a degree of loveliness unique and scarcely possessed by any other subject. The florists of the old school took considerable pains in the culture and improvement of Balsams, so much indeed that it was no uncommon thing for them to be grown to a noble size in eight and even ten inch pots, stout bushy specimens which carried an immense number of waxy-like blossoms which earned for them a title—not inaptly applied we think—of Camellia-flowered.

Culture.—Once understood, the culture of these annuals under glass is not at all difficult, and anyone prepared to sow seed in gentle heat in March or April can reckon on a display within a few months. Shallow pans or boxes containing a compost of good fibrous loam and leaf-mould with a little sharp silver sand should be prepared, passing the whole through a fine sieve and placing the rougher portions at the bottom. This compost should be made moderately firm and the seeds sown thinly and just covered. If a little bottom heat is available, as a propagating pit for example, it will be an advantage to give the seed the benefit of a start, but this is not a necessary condition, and failing this a temperature of 55° or so will meet requirements.

Stages of Growth.—In the early stages Balsams should not be kept in a too dry or a too damp state. There is a medium known to gardeners as the "happy" one, which is acquired easily. No delay ought to take place in getting seedlings out of the seed pan, as soon as they have advanced to the second leaf, into small pots, and it then becomes a question of following the work up until the final pot is reached, which may be anything from five inches, according to the fancy of the cultivator. It should, however, be borne in mind that it is unwise to allow plants to get into a pot-bound state before removing them. After the first shift an addition can be made to the compost of some form of manure, that which has stood some months and become mellow or obtained from a cucumber or mushroom bed.

Position.—Balsams resent a close stuffy

atmosphere, just as much as dryness at the roots, which is likely to engender green-fly or red spider, and therefore the house where they are grown should be ventilated, and a position found for the plants where they can get a maximum amount of light.

Stimulants.—We have not found any plant to respond quicker to a judicious use of stimulants than these beautiful greenhouse annuals, but whatever is given should be applied in a weak form. It is better to stimulate growth slowly and surely rather than attempt to force plants into bloom by administering an extra dose. We have seen most disastrous results follow in cases where the over-dose has thoughtlessly been given. Cow dung, sheep droppings, or guano or Clay's Fertilizer will improve the blooms, whilst old soot steeped in a tank of water will do much to enhance the plants generally.

Dealt with on these lines, Balsams will be found pleasing additions to groups of plants for indoor decoration, and anyone who will give them a trial cannot help appreciating them. The pity of it is that so many view plants—as we have said—from their capability of producing flowers for cutting and close their eyes to their other good qualities. That is the reason why in these days they are a neglected race.

W. LINDERS LEA.

Hotbeds for Half-hardy Annuals.

THE amateur without a greenhouse often imagines that he is unable to make a success of the culture of the majority of half-hardy annuals such as *Amaranthus*, *Asters*, *Calceolarias*, *Celosias*, annual *Dianthi*, *Lobelias*, *Mimulus*, *Nemesias*, *Phlox Drummondii*, *Petunias*, *Salpiglossis*, *Schizanthus*, *Verbenas*, and *Zinnias*. While it is certainly true that the majority of these can be better grown if sown early and grown on in a greenhouse before planting out, there is no reason why their culture should be entirely neglected by the man who has no greenhouse.

Instead of making a start as is often done in January or early February, the man without a greenhouse delays sowing till early in March. The first thing to do is to get together a quantity of really hot fermenting strawy stable manure (which can always be done by the man who is determined to get some), and build this up into a conical heap and allow it to get thoroughly heated up. After one or two turnings it is built into a hotbed, a foot all round being added to the size of the frame which is to be used, and if there is not sufficient manure alone to build a bed from twelve to twenty-four inches high, one-third part of leaves preferably from oak trees should be added.

This hotbed is quite ideal for the raising of late sown half-hardy annuals of all kinds. The seed is preferably sown in small pans or pots, care being taken not to sow too much of any one sort; and these pans after being lightly watered are stood on a wooden staging a few inches above the manure, unless extra quick germination is desired, when they are plunged in the manure itself.

When each seedling is large enough to handle pricking off is done in large shallow boxes, ample drainage being afforded, and the boxes so arranged that one side can be taken out with no trouble,

so as to make the removal of the plants from the boxes easy.

From three to six inches apart each way is a good distance to allow when pricking off, according to the nature of the subject, and care should be taken to make each little plant very firm in the new soil so that it can take root immediately, and does not loll about.

The boxes are then stood directly on the manure on the hotbed, and very rapid growth results as the soil of the boxes is kept very warm by the fermenting manure below. I have known seeds sown in March as described to produce sturdy stuff nearly six inches high, perfect for permanent planting out, at the end of May, yet at least two months less trouble to produce. Hardening off is, of course, essential before any planting out outside can be carried out.

One important point must not be overlooked, and that is the re-lining of the hotbed if its heat should for any reason decline. Properly made beds should retain their heat for at least two months, when a couple of good loads of manure are used in building them, but hastily prepared beds, or beds made of manure which is already played out, are often uncertain and dangerous to manage. A strict watch should always be kept on the thermometer, and if the bed begins to decline alarmingly as regards its heat, it should be thoroughly well lined all round with fresh, well turned fermenting manure. In a case where the heat is completely lost the frame should be well matted up at night, and another hotbed built as speedily as possible for the boxes or pots to be transferred to.

E. T. ELLIS.

Easter Gardening.

MANY amateurs who are at business at other times use the whole or part of the short holiday at Easter to see to their garden. Perhaps a note on what to do may be useful.

Firstly it will be well to get all the annuals sown out of doors, indeed the earlier in April the seeds are sown the better. Good easily grown annuals are *Clarkia elegans*, *Candytuft*, *Cyanus minor*, *Eschscholtzia californica*, *Godetia* double and single, *Helichrysum* (Everlasting), *Nemophila insignis*, *Nigella* Miss Jekyll, *Sunflowers*, and *Giant Sweet Peas*.

All vacant ground should be hoed well, frequently during April, and the weeds raked off. You will thus get "a good start on them."

April (the earlier in the month the better) is a good time to topdress roses with well-decayed manure. This may be covered up with a little soil if desired, and then it will not look unsightly. The long shoots of climbing roses should at the same time be carefully secured to their poles, arches, or walls, if this has not been done before.

Attention should be given to the frames at this period. The plants should be gradually hardened off to be ready for the borders in late May or the beginning of June. There is usually a great deficiency of frame room at this time, so it may be well to say that *Calceolarias* in frames may be transplanted into trenches or into much rougher frames made of boards, old doors, sods, or any material that is available, and covered during frost with hand-lights, mats, or even branches and straw.

E. T. E.

Economy in Stoking.

It may interest some of your readers to know how the furnaces for heating the glass-houses here are kept going on very economical lines. There are two furnaces in use, plain saddle boilers erected 18 months ago, size 5½ feet by 2½.

On the estate is a large saw-mill worked by a suction gas plant in which anthracite is used.

The waste cinders from this plant, together with the saw-dust which would otherwise be thrown out as useless along with small slabs—waste material in the making of egg-cases—are used in the heating of the above-mentioned boilers. The fires are well started in the morning with small slabs. Then when well started the boiler is filled with saw-dust, and attended every hour.

Notes from Glasnevin.

Visitors to the Royal Botanic Gardens during January and February found many evidences of returning spring in the opening of a considerable number of early blooming subjects. The weather on the whole was open and mild with occasional storms of wind and cold rain. Snowdrops were early in flower, particularly *Galanthus Elwesii*, which is growing well in the Spiraea bed in front of the Palm House range. In the rock garden, where a collection of species of Snowdrops is grown, nearly all were in flower by the end of January, including such handsome forms as *G. latifolius*, *G. maritimus*, and *G. Elwesii unguiculatus*, together with the common Snowdrop *G. nivialis* and some of its varieties. In



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When required to be stopped it is filled with saw-dust and the door left open, and at starting time plenty of the waste slabs are used until a good body of fire is got up. This is the only fuel used during the day. About 8 p.m. some anthracite waste is now put on to get a body for banking up; at banking time the boiler is fully filled with the anthracite waste which keeps up the necessary heat during the night. This was the only fuel used during the past winter, and when the thermometer registered 23 degrees of frost, sufficient heat was maintained to keep all plants safe. When erecting the boilers the flues were made larger than usual to give extra draught. The saw-mill is about a quarter of a mile from the gardens. The refuse from the mill is conveyed by a motor lorry used on the estate.

E. RUTHERFORD, Head Gardener to the Right Hon. Lord Farnham, D.S.O., Farnham, Cavan.

front of the long curvilinear range *G. Ikarie*, notable for its broad, glossy, green leaves, was showing many flowers in the last days of January. The Winter Aconite was open by the middle of the month, and many Crocuses even earlier, notably *Crocus Imperati*, a large colony of which annually makes an attractive picture near the Yew Walk. The white form *C. I. albidus* is also beautiful, and the pale slaty blue of *C. Sieberi* suggests a fine early display if planted in quantity among shrubs or in short grass, *Crocus mawianus*, with rich yellow flowers, was early noticeable under a large Arbutus near the entrance gate, and *Crocus chrysanthus* Canary Bird on the rock garden and round a Florence Court Yew made a beautiful show. Particular note should be made of a very fine form of *Galanthus plicatus*, which came to the Glasnevin collection from the Rev. J. C. Digby, of Lincoln. The leaves are broad and glaucous, the flower stems

stout, rising well over the foliage, and carrying flowers of large size, the pure white segments being of good substance.

Early Saxifragas are now nearly as good out of doors as in the Alpine House, notably *Sax. Burseriana* Emperor, which is flowering freely in a granite moraine; while elsewhere in ordinary gritty soil *Sax. Borisii*, with yellow flowers in heads of three to four flowers is quite attractive. Masses of *S. apiculata*, *S. apiculata* Malyi, and *S. apiculata* alba are making a good show, while *S. L. G. Godseff* and *S. Primrose Bee* are full of promising buds just showing colour; a few flowers are open on *S. Faldonside*, and others, such as *S. Paulineæ*, are progressing rapidly.

Iris histrioides gave a beautiful "touch" of

On the rock garden *Tulipa biflora*, with small whitish flowers, was full open by the 20th of January; this species would attract no attention later in the year, but at this time was immediately noticeable. Here, also, *Omphalodes verna* attracted attention by reason of its dainty bright blue flowers, and higher up above it *Lithospermum rosmarinifolium* caught the eye of every visitor. In a small bog bed *Adonis daurica* was fast opening its flowers, and perhaps most charming of all was a fine plant of *Cyclamen coum*, a mass of rosy red flowers under a tree of *Pinus Thunbergii* at the top of the rock-work, where it merges into the Pinetum.

Of shrubs *Rhododendron nobleanum*, though a decrepit old plant, was in flower from December,



RHODODENDRON MOUPINENSE, ROYAL BOTANIC GARDENS, GLASNEVIN.

blue on the rocky margin bounding the tanks outside the Victoria Regia House, and close to the wall *Iris unguicularias* in three or four varieties was attractive. *Iris reticulata* has been unusually fine in many colonies here and there, and now *I. pur-sind* and *I. sind-pur* are taking up the running, but the purplish hue of the flowers is less attractive than the violet and gold of *I. reticulata*. *I. rosenbachiana* will be in flower early in March, and the Juno Irises of the *orchioides* Warleyensis, *bucharica* type are pushing their growths strongly. The Satin Flower *Sisyrinchium grandiflorum* has a few flowers open now in the last week of February, and gives promise of a good show of its satiny purple blooms during the next few weeks.

Scilla sibirica of fine deep blue was peeping up here and there in beds and borders, and the Carpathian form of the spring snowflake *Leucojum vernum* had its flowers well up at the same time.

Hellebores, including many forms of *Helleborus niger* and numerous hybrids, of which *H. orientalis* seems to be one of the parents, were attractive in the herbaceous borders, shrubberies, and plantations.

and in various parts of the shaded side of the rock garden *Rh. moupinense* made an attractive picture in its large white blossoms; in a bed near the pond *Rh. dauricum* was a mass of rosy purple blossoms in the last week of January.

Cornus officinalis, very similar to the Cornelian Cherry, was a mass of flowers, giving a cloudy yellow effect.

Sarcococca humilis is a delightful evergreen plant with pointed glossy leaves on green stems some 2½ feet high; the clusters of flowers borne in the axis of the leaves are noticeable by reason of the prominent white stamens, and they emit a strong perfume which can be detected at a considerable distance. Like *S. ruscifolia* mentioned by a writer in last month's issue, this is an excellent plant for shaded places.

Daphne blagayana, in the borders about the conservatories, was flowering freely through January, and never fails to find admirers on account of its clusters of creamy white, sweet-scented flowers.

Jasminum nudiflorum and the much superior form, sometimes known as *J. Sieboldianum*, were beautiful in their mantle of yellow, though the

latter is not flowering quite so freely this year. Heaths were a riot of colour, especially a fine collection of *Erica carnea* varieties on a peaty bank of the rock garden; elsewhere in beds about the pond, etc., *Erica darleyensis* and forms of the Mediterranean Heath made attractive bits of colour.

Among shrubs, one of the most attractive members of the *Erica* family is the *Manzanita*, at present well furnished with hanging clusters of white, pink-tinted flowers, the flowers last in beauty for many weeks, and as the plant is evergreen, furnished with leathery, greyish leaves, between which can be seen the red stem. *Arctostaphylos Manzanita* is a shrub of much beauty. It requires a soil free from lime, and grows apparently six feet high, and possibly a good deal more. Other shrubs now showing colour in the flower beds are *Forsythias*, *Prunus triloba* fl. pl., *Prunus cerasifera* and its varieties, and *Prunus Miro*. Attractive already, and giving greater promise, is *Prunus delavensis*, a much-branched, rounded bush, bearing large pale-pink flowers. B.

Rhododendron moupinense.

Among early flowering dwarf species *Rh. moupinense* is remarkable. The beautiful large, white, fragrant flowers place it in the front rank of dwarf early flowering shrubs. An evergreen with leathery rather oval leaves, it is admirably adapted for the rock garden, where it may be planted in colonies in peaty bays, or on ledges not exposed to drought in summer. The early flowering nature of this species renders the flowers liable to injury by frost, but the dwarf habit enables the grower to apply nightly a covering of tiffany or branches just sufficient to ward off frost. Treated thus, the flowers may be enjoyed for several weeks. This year the flowers have opened well in February, but in more severe winters the main display is in March.

Rhododendron Flavidum.

This interesting species is another of the many beautiful dwarf Rhododendrons introduced from China. It is now, in the last week of February, just showing the primrose yellow colour of its flowers. Of twiggy habit, with small ovate, thickish leaves, it forms a good shrub for the rock garden in conditions such as suit *Rh. moupinense*.

Rhododendron parvifolium.

This is another species of dwarf twiggy habit with small narrowly obovate leaves producing in February and March clusters of rosy purple flowers at the ends of the branches. As a rock garden shrub it is quite effective, rarely exceeding 3 feet in height, and associating well with dwarf Heaths and other peat loving plants.

Obituary.

MR. JAMES COEY.

It is with sincere regret we have to record the death of Mr. James Coey, of Ardeen, Larne, and proprietor of the Donard Nursery Co., Newcastle, Co. Down. The late Mr. Coey was well known in agricultural circles, but to readers of this journal he was better known as a keen, capable,

and enthusiastic horticulturist. Although the Donard Nurseries are run as a commercial concern, Mr. Coey was a keen lover of good plants, and spared neither time nor money to acquire the very best things in cultivation. He visited Continental gardens frequently, and knew intimately the best collections in Britain and Ireland.

He was indefatigable in seeking the best methods of cultivation, and his numerous successes at the lending exhibitions in the British Islands bore testimony to the success which attended his efforts. Mr. Coey was extremely catholic in his horticultural tastes, and rejoiced equally in fine Daffodils, good herbaceous plants, rare trees and shrubs, and the best modern Roses.

A list of his successes would be a lengthy one considering the comparatively short time he had been in business as a nurseryman, and include the highest award of the Royal Horticultural Society for dormant bulbs, together with numerous cups, medals, and other awards for groups and specimens of rare foliage and flowering trees and shrubs. His remarkable success with the coloured *Leptospermums*, *Pittosporums*, *Lomatias*, *Triacaspidiarias*, and many other rare shrubs placed the Donard Nurseries in the front rank of firms catering for the highest class trade. A man of the kindest disposition and generous to a degree, his tall somewhat spare figure will be sadly missed among us, yet will his memory remain with us for many years to come, and as the seasons come and go they will bring many reminders of James Coey.

As an near and dear relative of his has beautifully said: "He has passed to an eternity of joy."

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to H. B. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

KITCHEN GARDEN.

ASPARAGUS.—Continue to lift and force sufficient Asparagus to meet all requirements. The permanent beds should be carefully raked down at the end of the month, the alleys given a dressing of short manure and neatly forked in, ready for planting early Cauliflowers or Lettuce, if room is scarce. Seeds may now be sown in 3-inch pots and plunged in a bed of ashes till germination has taken place.

ARTICHOKES.—Remove the protection from the Globe Artichokes, give a good dressing of manure, and fork over the beds. Where new plantings are to be made the present is a good time. Select various positions to prolong the supply, and till the ground well, as this crop will occupy the site for several seasons.

BROAD BEANS.—Make two sowings of Broad Beans during this month, choosing an open well-worked piece of ground. Sow the seeds in rows 2 feet 6 inches apart, and place the seeds alternately 8 inches in the rows. Where room is limited sow a row of Spinach, as a catch-crop, between the rows. Exhibition and Mammoth Long pods are excellent varieties, and Green Giant and Unrivalled the best green-seeded varieties.

BRUSSELS SPROUTS.—Owing to the long season of growth required to bring Brussels Sprouts to perfection, a sowing of Dwarf Gem should be made in boxes of sandy soil and germinated in a cool house. Prick out the young seedlings before they become drawn, into frames, about 4 inches apart; see that they do not suffer from drought, and grow sturdily.

BROCCOLI.—Keep a sharp watch on all Broccoliis that are due to turn in, using them as quickly as possible: this will allow the ground to be manured and deeply dug for the following crop. Where there is a difficulty in keeping up a supply, I would advise growing more of the purple and white sprouting varieties; these are quite hardy, and will provide a change. Sow seeds of the following for autumn and winter supplies:—Michaelmas White and Autumn protecting.

BEET.—A sowing of Crimson Ball or Globe Beet should be made on a well-selected site on the south border; a few rows between the early peas will generally meet the demand. These roots when quickly grown are much to be preferred to the old long varieties in the stores. As soon as they are through the ground ply the hoe between the rows and thin down to 3 inches apart.

BEANS, FRENCH.—Where one has a few frames to spare a slight hot-bed of 3 parts leaves and 1 part long manure, thoroughly trodden down, and placed on this 6 inches of good soil, will form an ideal place to forward a batch of French Beans. Sutton's Forcing, Selected Canadian Wonder, and Osborn's Forcing are excellent varieties for this work. Cover the lights at night and give air very carefully.

CABBAGE.—Give the main beds of spring Cabbage a slight dressing of Nitrate of Soda during the warm weather, and hoe it in; make good all deficiencies. A sowing of summer varieties should be made in boxes and pricked off when ready. All Heart Favourite, and Improved, Winningstadt are excellent varieties for this sowing.

CARROTS.—To provide a succession to those sown on the hot-beds, a sowing should now be made of the Early Horn varieties on a warm border. Give a good dressing of dry wood-ash and soot, and select fresh ground each season for this sowing. The main sowing of the main-crop varieties may be sown as soon as the ground is in good condition. Where extra good roots are required, they should be grown as recommended for parsnips last month, except that the holes need not be so deeply bored. Exhibitors should note that the R.H.S. Council has decided that in future all vegetables shown must be of a size suitable for the kitchens, large specimens being ignored.

CELERY.—Seeds for the main crops should be sown in boxes of sandy soil and germinated in a warm house. Sow thinly, and prick out into other boxes as soon as they can be conveniently handled. Standard Bearer, Solid White, Aldenham Pink, and Wright's Giant White are reliable varieties.

CAULIFLOWER.—The ground for Cauliflower can scarcely be made too rich. As soon as the ground is in good condition for planting a start should be made with the earliest varieties that have been wintered in the frames. Spruce boughs will form protection if the weather should turn very rough. Continue to prick out the spring sown plants and grow as sturdily as

possible. When watering make certain that the whole of the soil is thoroughly moistened. Another sowing of Early Giant, Autumn Giant, and Halloween Giant should be made.

CUCUMBERS.—Where one has frames or heated pits, Cucumbers may now be safely sown. Make up a good bed of fermenting material—3 parts leaves, 2 parts long litter, and 1 part decayed manure. After three turnings place in the frames with about a barrow-load of the following compost:—3 parts good loam and 2 parts old spent mushroom bed. Allow this to become thoroughly warm before planting. Place the plants facing north and south. Keep thoroughly moist and shaded from strong sun; they will quickly start away. Regulate the shoots and cut all fruit as it becomes large enough for the kitchen.

LEeks.—The main sowing of Leeks should now be made. Choose a good piece of ground facing south for the seed bed; obtain a fine tilth, and sow thinly, adding a good dressing of wood-ash and soot. Another plan is to sow in boxes pricking out when fit into nursery beds before giving the final planting. Prizetaker, Improved Musselburgh, Ayton Castle Giant, and The Lyon are excellent varieties.

ONIONS.—If not sown last month prepare the site and sow at the earliest convenience. Keep the plants in boxes and frames, growing steadily, and harden them ready for planting as soon as the ground becomes fit.

PARSLEY.—A sowing of Parsley for summer supplies should be made on deeply-tilled ground as soon as it is fit. Sow in drills 12 inches apart, and thin to 6 inches in the rows. Give frequent dustings of soot.

PEAS.—Continue to sow the best varieties of Marrowfat Peas on well-trenched ground. Do not sow closer than 3 inches from seed to seed in two lines. Allow a foot higher than the catalogue height when staking, and do not sow the rows too close—better a row of peas than a breadth of something else.

POTATOES.—Early Potatoes should now be planted in sheltered positions, such as at the foot of a south wall. Carefully watch their appearance through the soil, and protect from frost. Main-crop varieties should be got in towards the end of the month as the ground becomes fit.

MARROWS.—Early Marrows are greatly appreciated. Sow singly in 3-inch pots, potting into 6-inch as they become fit.

TOMATOES.—Plants for outside planting should now be raised. Endeavour to have good plants in 6-inch pots by the first week in June with the first truss set. The earliest fruits inside are now swelling, and will greatly benefit by slight top-dressings and frequent applications of a concentrated manure. Pot off all young plants as they become ready.

SPINACH.—Make a good sowing on warm borders, and keep the hoe busy between present crops.

TURNIPS.—A sowing of Early Snowball or Early Milan should be made on a south border. Protect from birds and slugs.

LETTUCE.—Make frequent sowings of both Cos and Cabbage varieties of Lettuce.

HERBS.—Any shortage in the herb border should be made good this month. Chervil, Basil, Dandelion, Fennel, and any other annual required.

GENERAL WORK.—Keep the hoe busy on every occasion whether any weeds are showing or not.

Clean and prepare all ground as it becomes vacant from winter crops.

HARDY FRUIT GARDEN.

STRAWBERRIES.—Strawberry beds will require a topdressing of well-decayed manure carefully forked into the ground between the rows. Give an occasional dusting of soot or lime, especially of a warm morning when slugs are out and busy feeding. By careful selection of varieties and positions, Strawberries may be had for a long season. Royal Sovereign must be picked perfectly ripe to be appreciated. Vicountesse de Thury.

times. The mite was quite plain and in the act of laying eggs. The bushes were cut right down and burnt at once, the ground dressed with lime, and the young shoots dusted with lime and sulphur throughout the growing season. There was no trace of the mite on my leaving hospital in February 1918.

MULBERRIES.—*Morus Nigra* is not met with as often as it should be. Apart from the useful fruit the tree is highly decorative. Trained as fan-shaped trees on south walls they make great growth and fruit much quicker than when grown on Standards. When planting use a good strong



GALANTHUS ELWESII.

although much smaller, is highly-flavoured; Dr. Hogg and British Queen are also excellent. Givon's Late Prolific and Laxton's Latest should be grown on north borders.

BLACK CURRANTS.—Examine the Black Currant bushes from time to time for the mite (*Phytotus ribis*). If big buds are noticed pick them off and burn them at once; dress the ground well with fresh lime, and spray the trees with a winter wash. During the time I was in the 3rd London General Hospital, Wandsworth, recovering from wounds, the officer in charge asked me to advise him on the state of the various trees, shrubs, etc., in the grounds. The Black Currants were a mass of big bud. We examined the buds through a lens in the laboratory magnifying 700

compost, and keep the trees well down, finishing off a few inches below the surrounding soil, forming a basin-shaped hole which will hold the water, during hot weather, when copious supplies of water are necessary.

FILBERTS.—Complete the pruning of all nuts as quickly as possible. The trees being in flower barren shoots are easily distinguished. Keep the centres of the bushes well open and all cross-branches cut away. Where trees have been let go they will require drastic treatment to get them into shape. It is much the easiest way to give them an annual pruning. In Kent acres of nuts are grown and kept about 6 to 8 feet high. The shoots are very thin and easily managed. Should there prove a scarcity of male catkins,

procure branches of the Common Woodnut and shake over the trees on fine mornings, placing the cut boughs in the tree afterwards.

PEACHES AND NECTARINES.—As soon as these trees begin to expand their flower buds, protection of some description should be placed in readiness to guard against bad weather. The best protection is, of course, glass copings and roller blinds which can be raised or lowered as required. Double netting may be used, and failing this place evergreens lightly over the trees. Any extra care will be well repaid later. Allow the trees to have full sun and air during the daytime.

VINES.—Where hardy Vines are to be planted, the border should be prepared with the same care as for the Vines under glass. There are several varieties that succeed outside, but very few gardeners can boast of doing them well. Select a south wall, and keep all green manure

visible to place the nets over the plantation. This will also ward off several degrees of frost during the flowering period.

GRAFTING.—Towards the end of the month, when the stocks are in good condition, any grafting to be done should be carried out. Keep the scions laid in behind a north wall until ready to use. This will retard them and allow the stocks to be some days ahead of the scions which is advisable. Have all materials in readiness, so that the operation may be quickly performed. If drying winds and hot sun prevail it is advisable to spray scions twice a day after they are in position.

PROTECTION OF FRUIT TREES FROM RABBITS.—Keep a sharp watch at all times on trees growing in orchards and exposed positions for attacks from ground vermin. Where possible the safest plan is to enclose each stem by about 2 feet 6 inches wire netting fastened with a straight thin iron rod. In the case of bush trees the



LEUCOJUM VERNUM.

out of the soil. They must never be allowed to suffer from drought. Do not plant before May when the danger of severe frost is gone. The Strawberry Grape, Sweetwater, and Royal Muscadine are well tried varieties. Finish all pruning of established Vines at the earliest moment.

FRUIT ROOM.—Watch all stored fruit very carefully; remove any decayed specimens at once; keep the room as cool as possible.

Figs.—Where protection has been given to Fig trees, this must now be removed and the trees trained. Thin out all weak and gross shoots, laying in well-ripened and short-jointed wood. Try and get the fruiting wood right from the centre off the tree. Figs to be fruitful must have restricted root-room and a rather poorer compost than most trees, giving them copious supplies of manure water during the fruiting season.

GOOSEBERRIES.—Get any remaining Gooseberries trained and pruned. Keep the bushes well open in the centre and all suckers removed. Give a good dusting of lime, and fork into the soil a good dressing of manure in the case of established trees. Put in a few cuttings of the best varieties each season. If birds are troublesome it is ad-

visable to place a circle round the tree. The stems might also be smeared with one of the protective compositions now advertised.

FLOWER GARDEN AND PLEASURE GROUND

TUBEROUS BEGONIAS.—Remove the tubers from their winter store, place them thinly on cool peach-house borders where they can be constantly damped to recover their plumpness. Shade them from strong light during the first fortnight, then gradually inure them to the light. As soon as signs of growth are noticed, box them up in the following compost—1 of loam, 1 leaf soil and 1 part sand with a dash of soot. Keep the soil moist but not wet. Otherwise a number of them may collapse. Endeavour at all times to obtain a sturdy growth, and grow as cool as possible. Where the stock is short, some of the largest tubers may be divided. With the varieties Lafayette, Argus, etc., they require more warmth or a more sandy compost to start. The second early vinery is a better temperature for these, and the shade of the Vines greatly facilitates their growth.

MONTBRETTIA.—As soon as the soil is in good con-

dition Moutbretias may be planted in groups on borders, according to requirements. Where a bold effect is required a good border will answer best. Plant about 4 to 6 inches deep in good ground. The strongest growers may be allowed 12 inches apart, but some of the newer varieties may go 9 inches. Be most careful when planting, as the young growth is very brittle.

HARDY FERNS.—Last year's Fern fronds may now be removed from the deciduous Ferns and all unsightly fronds from the evergreen varieties. Where the soil is perished the following compost should replace the old sour, worn-out stuff—Leaf soil 3 parts, 1 part loam, 2 parts river sand. For Limestone Polypodium an additional part of mortar-rubble. Shade is most essential for the majority of hardy Ferns, both for growth and effect. *Osmunda regalis* loves to reach the water.

HALF-HARDY ANNUALS.—Many half-hardy annuals will require to be sown now—*Salpiglossis*, *Phlox Drummondii*, *Verbena*, *Dianthus*, *Nicotiana Sandera*, Fibrous-rooted Begonias, and many other like subjects. Prepare a number of seed-boxes and raise in heat. As soon as they have germinated remove to cooler quarters, and guard against drought.

EREMPH.—These most handsome plants require a deep, rich, sandy soil, and when once well established are fairly hardy. It is as well, however, to place a handlight over the crowns when they commence to grow to keep off cold biting winds. A sharp look out must be kept for slugs which are most troublesome.

PLANT-EDGINGS.—Edgings to borders may be made quite attractive by the careful use of various low-growing plants, such as *Thymus* of varieties, *Arabis lucida variegata*, a golden-leaved plant; *Cerastium tomentosum*, silver-leaved; Thrift (*Armeria vulgaris*), Aubrietia, etc.; to borders in the woodland garden Ivy, St. John's Wort and *Vinca major*. All these are useful and neat. Any box-edgings that require replanting may be treated this month.

GNAPHALUM LEONTOPODIUM.—The Edelweiss is raised quite easily from seed. Add a little fine mortar-rubble to the compost when sowing, and raise in a close house. When planting out in the rockery allow a good sunny position.

DELPHINIUMS.—Prick out the young seedling Delphiniums as soon as ready. Keep a watch for slugs on established plants in the borders, dusting frequently with soot or lime. Where extra good spikes are required, thin down the young growths to 3 or 5 on a plant, and when about 4 inches high give a mulching of well-decayed manure. Try a few of the low-growing varieties, such as Blue Butterfly, Porcelain Blue, etc., for the front of the borders, they are most effective.

THE FRAME GROUND.—Plants growing in frames will require constant attention regarding watering and ventilation. Air must be given early in the morning, and the lights covered at night, when the thermometer drops below 38 degrees. When seedlings are pricked out straight into the frames they must be kept close and shaded till the young plants are established, when air must be gradually given.

ROSES.—Remove any mulchings, and prune the H. P. and H. Teas. Cut away all old snags and cross branches. Weak growths should be pruned to 2 or 3 eyes and the stronger growths to 5 or 6 buds. For garden decoration or effective planting a slight thinning out and shortening of tall shoots will prove sufficient. Always prune to an out-

ward eye. Where Roses are pegged down or trained on wires, all surplus growth should be cut away after covering the required space. Always choose stiff growers that hold their heads up for this purpose. As soon as pruning is finished, clean up all prunings and burn. Give the ground a dressing of well-decayed manure, and lightly fork over the whole ground, leaving all neat and clean.

HERBACEOUS BORDERS.—As soon as the soil is in good condition press forward any planting yet to be done in the herbaceous and mixed borders. Some of the stronger-growing plants will require dividing and replanting. Any extra choice varieties should be planted in prepared soil to give them an extra good start. When the planting is finished, give a neat forking and a fine finish. Always endeavour to grow a certain amount of surplus plants in the reserve garden. When slugs prove troublesome, give a good dusting of lime or soot.

SWEET PEAS.—These beautiful annuals are so indispensable in even the smallest gardens that every effort must be made to have a display of flowers over as long a period as possible. The autumn-sown plants are ready for planting out on well-prepared ground as soon as the ground is fit to work on. Place a few short twigs for support and a few branches of spruce or laurel on the north or east sides; make a final sowing in 5-inch pots for clumps in the borders, etc. Keep the colours in harmony with the surrounding plants; dust soot amongst the plants occasionally, and keep the soil stirred with a Dutch hoe or small fork. For house decoration, remember long stems and clean colours are most essential. Avoid overcrowding.

HOLLYHOCK.—Give the seedling Hollyhocks another shift when the roots reach the side of the pots. Gradually harden them off before finally planting out. These plants did extremely well here last season, many reaching 14 feet high. They are planted in different positions in the various borders, but always with a background.

SALVIA SPLENDENS AND PATENS.—These two brilliant Salvias should be raised in quantities, the scarlet of the former lighting up dull grounds wonderfully well and the bright blue of the latter making very telling effects in the borders. They can be grown from seed or cuttings; the latter require a warm propagating case. Grow them in warmth, and well syringed till established in 5 inch pots.

LAWNS AND EDGES.—Give the lawns a thorough sweeping and rolling before putting the machines on for the first cutting. In many damp places it will be advisable to run over the lawns with the scythe this mild season, grass having grown all the winter. Where moss is troublesome, give it a good raking with corn rakes. All bare spots should be made good. Put all edges in good condition with the edging iron. This requires considerable time and skill to get them cut through from end to end. Where paths require re-surfacing, this should be attended too, making all smart and clean for the season.

CLIMBERS.—Finish the pruning and training of all climbers. *Clematis Jackmannii* and its hybrids require hard pruning; *C. Montana* and *C. Montana rubens* only an occasional thinning; *Lonicera* or Honeysuckles require fairly drastic treatment; Jasmines and the ornamental Vines should be pruned hard.

WILLOW AND CORNUS.—These water-loving

plants are better cut down each season in order to obtain the brilliant colouring of the bark. Where it is desired to increase the stock, cuttings about 2 feet long may be inserted, and they readily root and grow away.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

ASPARAGUS.—Where beds are mulched with rough manure early in the winter this should now be cleared off and the beds given a dressing of short, well-decayed manure, lightly forking it in and covering it over with a little fresh soil taken from the alleys. A light dressing of salt may be given in showery weather. If it is intended to make new plantations this year, seeds should be sown in small pots this month and placed in a cool frame to germinate, planting out later.

BET.—Make a small sowing about the end of the month on the early border to supply small roots for salads.

BRUSSELS SPROUTS.—Seeds should be sown early in the month under glass for the earliest supply of sprouts. Prick them off as soon as large enough into the cold frame, and grow on as steady as possible, giving plenty air; otherwise they get drawn and spindly. Make the main sowing outside towards the end of the month.

BROCCOLI.—To provide for early winter cutting, sow seeds towards the end of the month, choosing a suitable variety for that time.

CABBAGE.—The principal sowing should be made during the month for summer supplies. First of All, Early Offenhams and Wimmingsstadt can be recommended to keep up an unbroken supply.

CAULIFLOWER.—Sow Early London, Walcheren, and Autumn Giant to give a succession through the summer and autumn. Plants wintered in frames should be hardened off by removing the lights entirely during the day, ready to put out at the end of the month; these may be planted between the lines of early peas, the stakes of which will give some protection from cutting winds; light spruce branches stuck in on each side of the drills will ward off a few degrees of frost.

All the above seeds require to be protected from the visits of small birds either by covering the beds with a net or some other method. I find Sanitas Powder a good remedy if dusted over the drills when the seeds are just germinating; it also checks the ravages of slugs.

CELERY.—Sow the main crop in pans or in a frame over a mild hot-bed, and treat as advised last month.

CUCUMBERS.—Sow in small pots for frame culture. Hot-beds may be prepared for these towards the end of the month, made up of leaves and stable manure thrown up in a heap and turned several times before putting into the frame. Tread firm to prolong the heat. Place a mound of good loamy soil near the top, and when warmed through the plants may be put in, syringe daily, and attend to the thinning and pinching of the shoots.

FRENCH BEANS.—These are always in great demand early in the season. Make another sowing in 8-inch pots to keep up the supply. Topdress

earlier batches with light rich soil, and feed with weak liquid manure.

HERBS.—This is a good time to overhaul the beds. The clumps of some of the strong gardening varieties may be reduced to keep within bounds. Clean and fork over between the plants, giving them a mulch of old decayed manure.

P137.—Sow second early varieties at intervals of a fortnight, following on with main and late crops till the end of June.

Plants raised indoor should be planted out before they get entangled, and place stakes to them at once as a protection against wind.

POTATOES.—Make further plantings of sprouted tubers of early kinds at the beginning of the month; follow on with second earlies. As the boxes are emptied of these they may be filled with late varieties and placed in the light to sprout, ready to plant next month.

RHUBARB.—Lift more stools into the forcing house to keep up a supply; pieces that have been forced need not be thrown away, but if required to extend the plantation should be hardened off and planted out on good rich land. These will come in for use the second year after planting, but should not be forced for some time again. Seed may be sown this month.

SEAKALE.—Cover up crowds on the permanent beds with pots, placing a good bank of stable litter over them. A further batch of crowns should be placed in the forcing house to avoid a break in the supply.

TURNIPS.—Make another sowing on the early border early in the month; Early Snowball or Early Milan are quick-growing varieties.

THE FRUIT GARDEN.

STRAWBERRIES.—Where autumn planting was not carried out and a stock of young plants has been wintered in pots, they should now be put out, providing the garden is in a fit condition for working. Remove flower trusses the first season. Go over the permanent beds and cut off all withered leaves; then give a light dressing of superphosphate, and hoe it in. Careful attention will be required with pot strawberries; examine two or three times daily with a view to watering. When the fruits are set, thin them out to 6 or 7 and feed with liquid manure. Syringe daily until they show colour, as Red Spider is sure to attack them.

PEACH TREES in flower under glass should be gone over with rabbit tail, or tap the wires to distribute pollen. Keep the atmosphere of the house fairly dry, especially in the early part of the day.

RASPBERRIES AND LOGANBERRIES.—Give these a good mulching of manure if not already attended to; cut the canes to the height of the wires or supports. Newly-planted canes should be cut to within 9 inches of the ground to encourage the growth of strong-fruited canes for next year.

THE PLEASURE GROUNDS.

HERBACEOUS BORDERS.—The re-arrangement of borders may be done as soon as the plants have made sufficient growth to indicate their whereabouts. Divide old stools of Phloxes, Michaelmas Daisies, and such plants that have outgrown their allotted space. Pull them to pieces by means of two forks stuck in back to back, and use the outside portions of the clumps

which will prove most vigorous. Replant as quick as possible.

The forking over of borders, which is sometimes left till the end of the month, should now be completed.

Roses.—Any planting still to be done should be completed without delay. Pruning may be taken in hand now, beginning with the climbers Tea, Hybrid Tea, and Perpetuals should have the old and dead wood cut out; shorten weak shoots to three or four buds, and cut off the unripened points of the strong shoots. Follow on with the dwarfs of Hybrid Perpetual and Hybrid Teas, cutting weak and unripened shoots down to a bud or two, reducing the strong ones to a foot or so according to their strength. Teas are better left till April.

Allotments.

During this month we have what might almost be termed the allotment holders' pilgrimage. For it is in the Easter holidays that a general exodus takes place to the allotments, which is general throughout these islands. Even those who have no plots become attracted on to the land by the evidence of general animation thereabouts. Many men have the different days allotted for the sowing of various seeds. It should, however, be the ruling maxim that the preparation and condition of the soil is the leading factor in sowing seeds. There are, of course, periods of time in which certain seeds must be sown, but the condition of the soil at the time will largely determine the results. It will save much disappointment, therefore, not to sow seeds when the soil cannot be raked to a good tilth. This applies especially to those crops which are not afterwards transplanted. It is seldom the soil can be made satisfactory after the seeds are sown; moreover, the smaller seeds may be totally lost.

One of the advantages of an allotment which is not so generally known or recognised is that it enlarges the number of vegetables which find their way into the poorer class households. In many of these households the only vegetables which normally appeared to be consumed were Potatoes, Cabbages, and Turnips, and such other pickings as were required to fill up their soup or stew. Even now the possibilities of Leeks when blanched are not realised, while French Beans were supposed to be for the "gentry"; and the most absurd ideas existed as to the manner of cooking. It should, of course, be stated that many excellent vegetables were too expensive for many unfortunate inhabitants, but with the raising of the standard of living and the allotments under cultivation during the war, the increase in the variety of vegetables consumed became marked. This must inevitably cause a demand for vegetables, and raises a further point that, while some market growers raised a grievance against allotments, this was a short-sighted policy which knowledge of trade conditions showed to be erroneous.

GROUND OPERATIONS.—At the date of writing these notes the month of February has brought a welcome relief from the continuous rains experienced during the winter. Allotment holders, who had the opportunity, took immediate advantage of the better conditions to get their plots in order. It is necessary, however, to offer a word of advice in cultivating soils which are heavy. Such land should, as far as possible, only be worked when it is in a dry condition. Clay soils, tramped upon and then dug

when wet, turn up in lumps which dry like bricks after a spell of dry weather. Otherwise, whenever the soil is dry, every effort should be made to fork it deeply and pulverise the soil as much as possible. When land of this description is well laboured it is usually found, after little rain, that the surface lumps will break down easily with a rake. Light soils, or those inclined to be sandy, present of course no difficulties, and happy is the allotment holder who can proceed straight away with his work at this period of the year without the weary and laborious task of trying to get heavy land into something like a satisfactory condition for sowing seeds.

SOWING SEEDS.—Suggestions were given last month for sowing Parsnips, and this is one of the earliest crops requiring attention. It is usual also to sow Onions this month. On many plots the onion fly plays such destruction among the seedlings that it is often a question whether it is worth while sowing seeds in the spring. A well-grown crop is a source of satisfaction and pride to a grower, but the excellent Onions which are now imported again, and sold cheaply, act against sowing seeds where the cultivation is difficult. Potatoes, which are a staple food, often take their place, or even green vegetables, which are so appreciated when in a fresh condition. The main crop of Carrots should be sown. Draw shallow drills one foot apart, and sow the seeds thinly. When the seeds are sown thinly the young Carrots can be drawn and used, leaving the remaining ones to mature. Seeds of a quick-growing Cabbage, such as Express, should be sown early. Transplanted as soon as large enough on well-manured land, cutting will commence in July or August, thus providing early results. The main crop of Leeks should be sown. The seeds may either be sown in beds or drills with the object of transplanting. The most economical way is to transplant into holes about nine inches deep and one foot apart. The holes become filled as the plant grows, and makes an excellent vegetable. Every allotment should grow Leeks—a nutritious vegetable, easy to grow; no trouble from disease; very hardy, providing vegetables throughout the winter. If Broad Beans have not been sown, these may now be planted in a double row, with the seeds about nine inches apart. It is too early to sow Runner Beans or Kidney Beans in the open, also early yet for Beet and Swede Turnips; but a small quantity of the quick-growing Model White Turnip is useful, also Globe Beet in suitable ground.

A row of Peas should be sown as soon as the soil is in a suitable condition. This crop does well on old Celery trenches or where the land has been deeply cultivated. A useful way otherwise is to dig a trench the width and depth of the spade, placing a good layer of manure at the bottom, then almost filling the trench with soil, and sowing the seeds the width of the trench. Peas differ greatly in height and season. Any catalogue will give particulars. The variety Little Marvel gives a good crop, and may be grown without stakes. Brussels Sprouts and most other greens should also be sown. Marrows may be raised in small pots in the house if a frame is not available. Celery for planting in trenches must be sown in boxes and raised in heat. The chief crop is Potatoes, and the end of March or the beginning of April is the usual period of planting. Commence with the early kinds. If the ground is not suitable, delay planting, and stand the tubers with the buds up where there is plenty of light, so that they may sprout. G. H. O.

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Platyceriums or Staghorn Ferns.

(Illustrated.)

By MR. J. VAN DEN BERG.



AMONG Ferns the Platyceriums or Staghorn Ferns are a very interesting and peculiar group, useful for the tropical house. They derive the name Staghorn Ferns from the fact that many of their leaves branch in such a way that they plainly recall the horns of a stag. Natives of Africa, America, Australia, and Asia, the Platyceriums grow on the stems and branches of trees, and are, therefore, epiphytic plants. They clasp the stems and branches with the barren leaves, while the fertile leaves grow out, so that in the Platyceriums two sorts of leaves or fronds are produced—namely, centripetal and centrifugal leaves. Generally, these differing leaves are called sterile and fertile leaves, owing to the fact that the sterile leaves serve as flower pots, while the fertile leaves produce spores, necessary for propagation. Both sorts of leaves are green-coloured, and able to prepare food material for the plant, but the centripetal, or sterile, leaves decay much sooner, and later on turn brown. Both are furnished with a felty substance, which shows that they prefer a dry, rather than a moist, atmosphere. Watering never should be done on, but between, the leaves, and only in the morning on a sunny day, so that the plants can dry during the rest of the day. One

of the principal things regarding the cultivation of Platyceriums is the question of the feeding (food). I have often seen Platyceriums in collections of plants making a very poor show because they were in want of food. One often thinks Platyceriums are epiphytic plants growing against trees, and, except for a small quantity of decayed leaves, living only on air and water. Having plants in cultivation in a hothouse, we only give them, in addition to a small quantity of soil, *air and water*; but this is wrong, and we think too much of the word *epiphytic*.

Thinking of the Platyceriums as they grow in nature, we will see birds, monkeys, and other animals taking shelter during the night between the leaves, and, leaving this place in the morning, the excrements are left, while sometimes a sick animal dies on the spot itself, remaining as food for the plant, and thus we can easily understand that Platyceriums get *more* than air and water. By strong feeding, with a mixture of leaf soil, sphagnum, peat, sand, and a good quantity of old

cow manure, and giving some liquid manure three to four times during the summer months, strong and healthy-looking plants will be obtained, sometimes growing to a considerable size.

Excepting some Platyceriums which can be propagated by division, the best way of propagating is by sowing spores. Sown in a clean seed pan on very fine soil, and covered with a glass plate, these spores sometimes germinate after a few weeks, at other times after a few months. When the young plants are raised we can transplant them into pots. However, the best plan is to bind them against a piece of cork. In this cork one little hole is made, through which we put a piece of copper wire, so that our plant is able to hang. Preparing a soil mixture of sphagnum, leaf soil, peat, sand and charcoal powder, not forgetting some old cow manure, we make a little bed of this soil on the piece of cork. Putting our Platycerium on this soil, and covering the soil with sphagnum, we bind it all together on the cork with some copper wire, without touching the plant itself. Thus settled on the cork, we hang our Platycerium quite near the glass, and soon it will start to grow. When watering is necessary, this will be done between the cork and the plant. It is unnecessary to say that after a year or so, when the plant is bigger, we have to replace it against a larger piece of cork.

The following species and varieties are cultivated in the Botanic Gardens at Groningen (Holland). In this Botanic Garden a beautiful collection of Platyceriums—certainly one of the best in Europe—is to be seen, and many beautiful Platyceriums are raised and cultivated here from spores:—

1. *Pl. alcinorne* (*Pl. bifurcatum*), a native of Australia, is one of the commonest. The plant is narrow-leaved, while each leaf is twice or more branched. In a young state, the leaves are furnished with a felt-like covering. Varieties of this kind are *Pl. alcinorne* var. *majus*—var. *Hillii* and var. *Hillii majus*.

2. *Pl. grande* is certainly the largest of the Platyceriums. The centrifugal leaves are very big, and branched in a beautiful way. We have seen plants of this species more than three feet in diameter, and leaves with thirty-two branches. On the back of the leaves spores are to be found at the base of the first ramification, and a large area is occupied. *Pl. grande* not making runners (young plants), and dividing being thus impossible, is only propagated by spores.

3. *Pl. Wallichii*, from the Malay Peninsula, is much like *Pl. grande*. The centripetal leaves are divided very deeply. The centrifugal leaves are yellow, woolly-haired, deeply bipartite, with

double-forked (bifurcated) parts. Spores are borne at the base of this incision.

4. *Pl. aethiopicum*, thus named by Hooker, is called by Beauv *Pl. Stenmaria*. It is a small species from Africa, and wants a hot atmosphere. The centripetal leaves are not branched, and turn very soon to a brown colour. The centrifugal leaves are thick and gross, and have strong veins. A variety is *Pl. aethiopicum* var. *angolense*.

5. *Pl. Wilburckii*, a native of Java, with the centripetal leaves remaining upright and very much branched as in the case of *Pl. grande*. The centrifugal leaves form long, hanging ramifications.

6. *Pl. biforme* is a very peculiar species. The leaves are in all ways thicker and harder than in the other species. Spores are here found on a little kidney-shaped part at the base of the centrifugal leaves. This spore-bearing part has the shape of a shell or ear. Some authors have described this species as *Pl. coronarium*.

7. *Pl. Veitchii* is described as of garden origin. Of no distinct character, the leaves are not much branched, and are covered on the back with white, hairy felt.

8. *Pl. Wilhelmina Regina* is a very rare species, and some authors think it a variety of *Pl. grande*; others, of *Pl. Veitchii*. The centrifugal leaves hang down, and sometimes are six feet long, while the centripetal leaves are upright, wide, and nearly three feet long (high). Near the first ramification a part of the leaves is occupied with spores.

Other species are *Pl. madagascariense*, from Madagascar; *Pl. andinum*, *Pl. Waudii*, *Pl. Vassei*, *Pl. Ridleyi*, *Pl. Liberia*, &c.; but, no doubt, some of these may be considered as synonymous.

The Basket Plant Season.

Not infrequently, hanging baskets begin to show signs of failure before the season is over, and this is more especially noticeable where no change has been made in the occupants from the previous year. As a general rule, it is a mistake to permit plants in baskets to occupy them two years consecutively without overhauling them and replenishing the soil. Limited room, lack of vitality through no change of soil, and exposure to heat and dryness are some of the contributory causes why plants in baskets under a greenhouse roof are not always the success they might be. What is the remedy? It is this: to make a fresh start early in the spring both with plants and soil. It is "the only way" to ensure bloom and beauty with a prodigality of foliage.

Perhaps these lines may meet the eye of someone who is confronted with a shortage of suitable plants or what may be regarded as such. If so, I would suggest that an inventory be taken of the stock at once. To begin with, small Fuchsias only recently struck, and not yet potted on; *Heliotropes* left in pans or striking pit, or that batch of Ivy-leaved *Pelargoniums* which are hardly considered big enough for bedding out, are the very subjects that in a few short months will make the baskets masses of loveliness, and lend an attraction to a house, the window of a room, or portico. Without delay, then, use any spare baskets you may have, re-lining them with fresh moss, and fitting them with a compost of loam and leaf mould, making these "ingredients" moderately firm. The young plants can then be set, two, or possibly three, according to size of basket, afterwards watering and allowing the soil to settle. It may be found necessary to add a little more compost.

AFTER-TREATMENT.—Suspended from a greenhouse roof, baskets of plants like those mentioned are quickly enveloped, and are not long before they commence to show flower. As the shoots develop they should be gently tied down to the sides of the baskets, so that, seen from below, the identity of the receptacle will be hidden in foliage and blossoms.

WATERING AND STIMULATING.—When, after a few weeks, the plants have become established, it will be beneficial to afford them weak stimulants occasionally; this will maintain the blossoms in a state of perfection longer; but no stimulants ought to be given until after ordinary watering. When it is necessary to water—and obviously plants suspended near to a greenhouse roof need a deal in summer—it is best to take the baskets down and immerse them in tepid water, allowing them to drain before suspending them.

OTHER SUBJECTS.—Besides the plants mentioned, no one ought to overlook the trailing Campanulas, of which *Isophylla* (blue) and *I. alba* (white) are most useful, as is also that very delightful showy old gold mimulus-like plant, *Diptychis glutinosus*.

W. LINDERS LEA.

Violets.

ONE sometimes meets with people who, although interested in many plants that are valued for their fragrant blossoms, show little, if any, concern for the cultivation of Violets, and beyond perhaps having a clump or two in some out-of-the-way corner of their garden, which are allowed to degenerate, know scarcely anything of them. Yet what flowers exhale a more delightful perfume when grown for winter and early spring than the "modest Violet"?

MAKING A START.—To have blossoms of quality it is necessary that a start should be made with runners in April, and, as with Strawberries, so with Violets, they should be selected from plants that have done well, avoiding runners from plants which in other respects may be strong and healthy. A bed is best made up in an open quarter of the garden. The soil ought to be deeply dug, and have worked in good, fibrous loam, rotted dung and leaf mould. This will require to be made firm. Liberality in the matter of soil on the lines suggested is worth all the trouble or expense involved. Runners need to be dibbled in firmly, and 15 to 18 inches space should be the minimum. For the summer, the north side of the garden, where the plants can get the benefit of partial shade during the day, will be found most suitable. If this is not available, then a good plan is to make up a bed between rows of Peas, for instance, which will afford Violets just the necessary screen in a time of heat and drought.

SUMMER TREATMENT.—Copious supplies of water should be given the plants in a dry time; this is best afforded at night. Syringing the foliage well is also beneficial, as it helps to keep at bay red spider. Stimulants, in the form of liquid manure, that made from horse or cow droppings answering, but it should be given in a weak form. Occasional waterings with soot-water will keep the plants in a vigorous state.

REMOVAL TO FRAMES.—Arrangements must be made in September for winter quarters, and a cold frame, having a south aspect, will be found the best. My practice is to place a few inches of ashes at the base of the frame before throwing in loam,

or old pottery material will answer. The ashes act as a drainage. By about the middle of September Violets have made good headway, and I lift each clump carefully, with what soil is possible, and deposit it in the space prepared for it in the frame, taking care to allow at least six inches of room between the foliage and glass. When planting has been done, they have a good soaking of water, and, as a rule, need very little during the winter. By November the reward comes in the shape of a prodigality of sweetly-scented blooms.

VENTILATION.—Many who grow Violets well up to the time they are “framed” fail with them afterwards, and this is mainly to be attributed to lack of ventilation. Violets are hardy subjects; they dislike coddling, and, therefore, the old maxim

popular variety, having long stems. White Czar, one of the very best whites. California, violet purple, a profuse bloomer, and of vigorous constitution. Admiral Avellan, reddish heliotrope.

DOUBLES.—Mrs. J. J. Astor, heliotrope, large and fine. Marie Louise, dark mauve, one of the best doubles. Swanley White, large and very sweetly scented. Belle de Chatenay, white, tinted lilac.

W. LINDERS LEA.

Erica Darleyensis.

THIS is certainly one of the most delightful of the hardy heaths and merits the attention of everyone who cares for early-flowering hardy plants. Long known in gardens as *Erica mediterranea hybrida*,



PLATYCERIUM WILLINKII.

should be strictly carried out to the letter. It is one which all gardeners know, viz.:—“Admit air on all favourable occasions.” Virtually this means that after plants have been removed to frames there are many days when the “lights” can be moved altogether, and only placed in position at night at the “tilt” for the admission of air.

DAMPING.—A wet autumn is a source of trouble to the grower of Violets, as it entails more watchfulness. It will mean the surface of the bed being “stirred” now and again with a fork to promote air to the soil; it will certainly involve the speedy removal of all decaying leaves, and an introduction of an astringent like “flower of sulphur” which will ward off a deal of damp, but, notwithstanding all this, the flowers one may have in November compensate for any trouble. Among the many excellent sorts worthy of culture to-day may be mentioned the following. They are rich in fragrance and prolific bloomers:—

SINGLES.—Princess of Wales, large, blue, a most

it has, as first pointed out by Mr. Bean, of Kew, marked affinities with *Erica carnea*, and is a hybrid between that species and *Erica mediterranea*. Of rather taller growth than *E. carnea* it nevertheless never grows up like the common forms of the Mediterranean Heath, rather forming wide spreading masses a foot or more in height. The flowers, which are often beginning to show colour in November and December are, when fully out, of a deep pink, and remain in beauty until May. This lovely plant is less averse to lime in the soil than some other Heaths, a character inherited probably from *E. carnea*, which does quite well in loam containing lime. It is good practice to prune back the shoots when the flowers are over in May, so as to keep the clump dense and well furnished. Cuttings root readily in July and August, in a close frame or propagating case.

B.

Notes from Glasnevin.

WHILE the weather may be cold enough outside in March, under glass the conditions may be spring-like and balmy enough. The Camellia House at Glasnevin was more than usually inviting throughout the past month owing to the bright display therein. Camellias are represented by old plants planted out in the centre border, and they were flowering freely, though somewhat near the roof to be easily seen. Very beautiful were various *Rhododendrons* grown in pots, notably *R. Veitchianum*, an Indian species with very beautiful, large white flowers, borne in clusters of three or four together at the ends of the flowering shoots. Charming, too, is *R. albescens*, with rather smaller flowers, also white and sweet-scented. An admirable plant for indoor flowering in early spring is *R. cilicidyle* × *R. albescens*, a hybrid raised at Glasnevin and which has never been given a distinctive name; the flowers are white, bell-shaped, borne in loose clusters. *R. Beauty of Tremough*, carrying clusters of rich pink flowers, was conspicuous. All these *Rhododendrons* are cultivated in pots, and are grown out of doors during the summer months.

An interesting and beautiful plant for early flowering is *Columna magnifica*, a member of a genus now of some importance where collections of plants have to be grown. It is an upright grower bearing orange scarlet flowers and is useful among other spring-flowering subjects or as an isolated group. Several of the *Columnas* make fine basket plants, notably *C. gloriosa*, which forms pendant shoots a couple of feet long, and *C. Fedrensis*, which throws out more or less horizontal shoots, from the underside of which the richly coloured flowers are well displayed.

In addition to the foregoing there was the usual display of Daffodils in pots, a good batch of blue *Cinerarias*, which is an annual feature, the strain being considered a good one. *Primula obconica* and *Cyclamens*, which have been flowering for three months, were still making a fine show, and were supplemented by good batches of *Primula sinensis*, Hyacinths, Mignonette, Lily of the Valley, *Primula malacoides* and the quaint *Babiana rubro cyanea* and *B. macrantha*.

Out of doors many interesting plants were blooming, especially towards the end of the month. Chief among shrubs were the Forsythias, and, annually, that beautiful form introduced by Mr. Wilson, *F. suspensa atropurpurea*, is more and more admired on account of its numerous large, clear, yellow flowers borne on the dark, chocolate-brown shoots of last year.

Prunus tomentosa, a dwarf spreading shrub, was full of flowers and half open buds, and promised a glorious show at Easter, and near by it *P. subhirtella autumnalis*, better known as *P. miqueliana*, still flowered well although it commenced before Christmas.

Corylopsis Willmottii, carrying many pendent racemes of pale yellow flowers, is uncommon and distinct, and worth growing on the chance of an early display, although it may be "nipped in the bud."

Heaths continued to give a good account of themselves, and *Erica Veitchii*, *E. arborea* and *E. lusitanica* were in fine form. *Rhododendron*

ciliatum was just opening on the 23rd; *R. floridum* had many flowers open; *R. racemorum* showing colour, and others, like *R. ravum*, were bursting the buds. Should the weather keep favourable April promises much of beauty and interest.

B.

Pruning Roses.

THE pruning of Roses should be finished this month (April). Dwarf and Standard Hybrid Perpetuals and Hybrid Teas ought to be pruned the third week in March. All not yet finished should be attended to immediately. Dwarf and Standard Teas and Noisettes are best done this month as—their constitution not being so robust as the former—they are liable to have the young, tender shoots, resulting from the pruning, cut by cold winds or frost. Climbing varieties of all mentioned should also be pruned now. Thinning out of old and unsightly wood on the latter should be done in late summer after flowering; at this time all Ramblers are pruned.

All dwarfs should be first cleared of dead wood and very weak shoots cut right out, especially those which crowd the centre of the bush. Prune weaker varieties harder than the stronger growing kinds, remembering that very strong shoots should not be cut back as hard as the weaker ones. If very perfect blossoms are required for exhibition or otherwise the shoots may be pruned to three or four "eyes" (buds), always taking care to cut to an outside bud. If a larger quantity of less perfect Roses are wished for, it is quite sufficient to prune to six or seven "eyes," leaving very strong shoots from eight to twelve "eyes," and any laterals on these stronger shoots can be cut to two or three "eyes." Some hybrid perpetual varieties, i.e., Hugh Dickson, produce shoots of exceptionally strong growth. One or two of these strong growths can be pegged down. This tends to distribute the sap, which runs upwards, and causes the buds to break more evenly along the branch. Standards are treated in much the same way. The pruner must aim at keeping a shapely head, and the centre well open, as in bushes. Roses are like children—certain rules may be good generally, but they cannot sometimes "be kept to the letter," and varieties vary in the treatment they require just as do individual children. However, a great principle to bear in mind is—the weaker the bush or tree, the harder the pruning should correspondingly be. When Roses are grown for exhibition purposes no trouble should be spared to give each variety individual treatment. For this the "Handbook on Pruning Roses," issued by the National Rose Society, will prove of great use to the intending exhibitor, as the majority of good varieties are mentioned with regard to special treatment.

All types of Roses above mentioned are those which must be pruned to get good results. Other types, such as Rugosa, Bourbons, Ayrshire, Provence, and all Briars—usually grown to form large bushes or hedges—should be thinned according to their needs, and the removal of decayed wood in all types is beneficial.

If Rose trees have not been manured in the autumn it is advisable to give the beds a mulching of good, well-decayed farmyard manure, which can be dug in later on. Fork the soil carefully before manuring.

I. F. RYAN.

The Laurel.

IN a recent number of IRISH GARDENING a correspondent, inquiring into the great planting of Laurels in other days, and the present tendency to their destruction, asks—"But what is the Laurel?"

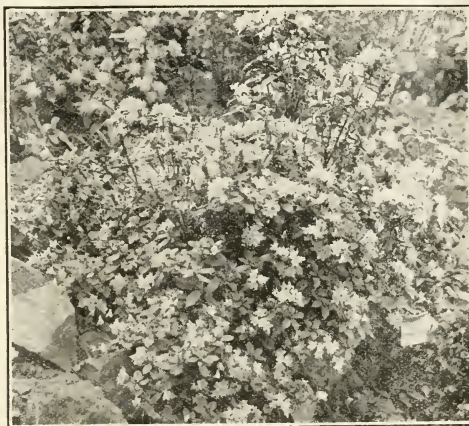
In gardening circles two species of *Prunus* are known as Laurels, viz.: *P. lusitanica*, the Portugal Laurel, and *P. Lauro-cerasus*, the Cherry Laurel, and in former times these two were undoubtedly over-planted and much abused. Both are evergreens and boast of several varieties each. The Portugal Laurel is, in the writer's opinion, much inferior to the Cherry Laurel as a stately and ornamental evergreen. The leaves are from two to five

racemosus, a plant much like the Butcher's Broom. The American Laurel is *Kalmia angustifolia*; Copse Laurel, *Daphne Laureola*; the Great Laurel, *Rhododendron maximum*; the Japanese Laurel, *Aucuba japonica*, and so on. Nevertheless, when gardeners speak of Laurels they usually mean either the Portugal Laurel, *Prunus lusitanica*, or the Cherry Laurel, *Prunus Lauro-cerasus*.

HORTUS.

Rhododendron Hanceanum.

THIS, one of Mr. Wilson's introductions from China, is an interesting if not brilliant species suitable for



RHODODENDRON HANCEANUM
On the Rock Garden at Glasnevin.

inches long and about half as wide in the ordinary form but reach their greatest development in the variety *Azorica*, where the leaves are from five inches upwards. Grown as an isolated specimen and allowed freedom of growth the Portugal Laurel is certainly a handsome shrub and flowers freely in early summer.

The Cherry Laurel, on the other hand, bears large handsome leaves, six inches long in common forms, and in the best variety, viz., *Magnoliæfolia*, often ten inches long and three to four inches wide. When allowed to develop naturally the Cherry Laurel is one of the handsomest evergreens in cultivation, but is too often hacked out of all beauty by being planted in unsuitable positions.

Many other plants have borne the name of Laurel. Indeed, the "Treasury of Botany" holds that *Laurus nobilis*, the Sweet Bay or Noble Laurel, is the only one properly entitled to be so called. The Alexandrian Laurel is *Danæa Laurus* or *Ruscus*

positions where a larger growing *Rhododendron* would be out of place. It was first noticed by the Rev. E. Faber on Mt. Omei about 1886 and was introduced in 1909. In nature it is said to form thickets, and in cultivation grows freely, varying somewhat in habit: some plants tend to grow upright, forming sparsely branched bushes, while others are of a decumbent habit, the branches at first rather prostrate but gradually ascending as they grow. The leaves, from one to three or four inches long, are less than half as much in width, dark green above, paler on the under surface. The flowers are borne in clusters at the ends of the shoots and are creamy white in colour, opening in April and May.

So far, the cultivated plants have proved quite hardy and suitable for ledges on the larger rock gardens, but it may be in time that certain plants will outgrow this position.

B.

Rock Plants.

THE Alpine Pinks are amongst the most charming of rock plants alike for their beautiful colours, mostly glaucous foliage, and in many cases sweet scent. There are many species and varieties, but as the names are somewhat uncertain in a good many lists we shall content ourselves here with mentioning a few of the best. *Dianthus alpinus* when well grown is, without doubt, one of the most beautiful; of dwarf habit and bearing large rose-coloured flowers over deep green foliage, it is a plant of much beauty. A deep, gritty soil and an exposed position seems to suit it. The white variety is a strong grower and flowers equally or more freely but is a much inferior plant.

Dianthus caryus, the Cheddar Pink, is quite a good plant with sweet-scented, rose pink flowers; it is better known in gardens in the form known as *Bickham's Variety*, of neat compact habit. Another variety is called *Margaret*, while the double form, though rather floppy, flowers freely and gives a nice bit of colour.

D. callizonus is of the habit of *D. alpinus* and has rosy-pink flowers with a zone of whitish spots towards the centre.

Dianthus cinnabarinus has flowers of a most beautiful cinnabar red colour, but is of a most wretched sparse habit of growth; in fact, the only way to keep it alive is to keep it from flowering. The best plan seems to be to pinch off the flowers and propagate from cuttings until a good batch of plants is secured, and then plant out, making up one's mind to lose the lot after flowering.

Dianthus deltoides, the Maiden Pink, is a showy, free-flowering species, often described as rose-coloured, but has certainly a tinge of magenta in it. This, too, frequently dies after flowering, but is readily increased by means of seeds or cuttings.

Dianthus fragrans, with sweetly-scented, white flowers, is quite attractive and forms good mats if allowed to hang over a ledge.

D. Freynii is a tiny gem suitable for a crevice or the moraine. It forms tight little rosettes of quite short leaves, and produces comparatively large flowers of a pale rose colour.

Dianthus microlepis is another tiny species of compact habit, with short leaves and bearing pale pink flowers; it is suitable for the same positions as *D. Freynii*. *D. microlepis rumelicus* is similar in habit, but much deeper in colour, and is, I think, a better grower.

Dianthus neglectus is one of the best of all Pinks for the rock garden. The grass-like foliage is surmounted by flowers of the most lovely carmine rose, the reverse of the petals being buff-coloured. Some variation is noticeable among seedlings, which may easily be raised, but those with the best coloured and best formed flowers should be selected.

Dianthus subcaulis is one of the dwarf, neat, compact growers, forming tight mats of foliage, which in summer become quite smothered in small pink flowers.

Dianthus sylvestris is, when in flower, one of the most beautiful and graceful of all. Forming tufts

of narrow leaves, the charming soft pink flowers are borne on longish, slender stalks, giving the plant a light, airy appearance which never fails to charm.

The *Dodecathrons*, or so-called American Cowslips, are delightful plants for moist, boggy places, and satisfactory in that they rarely fail to establish and reappear annually. Quite a number of species and varieties are obtainable, the colours ranging from crimson to white. The following are to be recommended:—

D. Hendersoni, crimson; *D. integrifolium*, rose; *D. Jeffreyi*, pale rose, a strong grower; *D. Lemmei*, a hybrid obtainable in various colours, chiefly in shades of violet and purple; *D. Meadia*, rosy purple, and *D. Meadia album*, white.

Douglasia italiana, sometimes classed as an *Androsace*, is a beautiful and interesting plant, loving gritty, well-drained soil and an open position, but not too sunny. It is also suitable for moraine treatment. Of low-creeping habit, with small densely arranged leaves, *Douglasia italiana* is an attractive plant when furnished with its yellow flowers.

Douglasia larigata, with rather broader, greener leaves and rose pink flowers, is a plant of even greater charm but by no means easy to keep. It succeeds fairly well in a moist, sandy compost in a half shady position, and when in flower is a beautiful Alpine. It is wise, however, to keep a few plants in pots, under which treatment, strange to say, it does pretty well.

Drabas are numerous, but many of them are weedy. *Draba aizoides*, *D. aizoon* and *D. brunifolia*, all with yellow flowers, are free-growing alpine, not without beauty when flowering freely, but the best species is probably *D. Mawii*, a dwarf, tufted plant, with green leaves and comparatively large white flowers; it is not easy to get true to name. *D. pyrenaica*, often called *Petrocalis*, is distinctly a good plant, forming close mats of short shoots, densely furnished with small leaves and bearing in summer quantities of rosy lilac flowers.

D. imbricata makes hillocks of light green foliage and bears yellow flowers on slender stems, held an inch or two above the leaves.

D. Sundermanni is similar in habit but has white flowers.

Of the "Dragon's Head" (*Dracocephalum*) very little need be said. As to the best species, *D. grandiflorum* is probably not in cultivation, and very likely most of us have never seen the true plant. *D. bullatum*, introduced some years ago from China, is quite worth growing. The leaves, which are stalked, are much wrinkled, and the flowers, produced several together on stalks some six inches high, are fairly large and dusky blue.

Dryas Drummondii is a useful trailing plant, loving to hang over rocks, forming a beautiful mantle of small leaves, and bearing yellow flowers in summer. Others are *D. integrifolia*, with white flowers; *D. octopetala*, white, and *D. Sundermannii*, yellow.

Epilobium obcordatum is a charming trailing plant bearing, in late summer, lovely deep rose flowers. This plant requires careful treatment, for though growing freely in summer it is undoubtedly tender and requires protection from cold and wet in winter. A stock should be kept in pots.

Viburnum Carlesii.

THIS deciduous species is one of the most charming spring-flowering shrubs. It forms an open bush but freely branched, and when in flower in April and May is an object of much beauty. The leaves from one to three inches long are rather less in width and are unequally toothed on the margin. The flowers, which are formed in autumn in round clusters, do not expand until spring. The buds are pink but the flowers become white as they open, are of a wax-like texture and deliciously scented. It appears to like a fairly rich, moist soil. B.

in the ground through the winter, and if the young shoots are well thinned out during summer a good display may be enjoyed; but undoubtedly the best way is to propagate young plants each spring. This, as every gardener knows, is easily done by bringing into a warm greenhouse or frame, roots which had been lifted last autumn and kept dry and free from frost during the winter. Young shoots are soon produced, and these, when three or four inches long, are removed with a thin slice of the old tuber adhering, and inserted singly in small pots filled with a sandy compost. Placed in a close case in a warm greenhouse or frame, and shaded from bright sun, they will root in about three weeks, and may then



VIBURNUM CARLESII,
Royal Botanic Gardens, Glasnevin.

Dahlias.

THE Dahlia has long been a popular summer flower, and never more so than at the present time. Formerly it was largely grown for exhibition purposes, the old stiff, double-flowered, show varieties and the cactus-flowered forms being particularly favoured by exhibitors. A certain amount of stiffness was a character of these garden creations, and this made them rather unpopular with many gardening people, who preferred lightness and good colour to scattered blooms of show standard. For this reason Dahlias were frequently not made as much use of in many gardens as they might have been, and, as a matter of fact, now are.

The old show varieties, with their clumsy, heavy blooms, and many of the "Cactus" varieties, with the flowers hidden among the leaves, have given place to a finer race of garden varieties, such as the Peony-flowered, the Collarette, beautiful singles and dwarf Pompons. The latter, though somewhat stiff, flower so freely that they are invaluable where masses of summer and autumn colour are required.

In some mild localities the old roots may be left

be potted on into five-inch pots in a somewhat rougher compost of loam, leaf-soil or old hot-bed manure, with a dash of coarse sand to keep the compost open. Towards the end of April and early in May they may be transferred to a cold frame, which can be protected from late frosts, keeping them fairly close for a week or so, thereafter admitting air more or less freely, according to the weather, until towards the end of May the lights may be left quite open and the plants thus thoroughly hardened off for planting out in June. It should be the aim of the grower to have the young plants as big and strong as possible at planting time, so as to ensure early blooming, otherwise it will be so late in the year before there is any display that only a few weeks may elapse ere frost brings it to a close. Many growers have stocks well in hand now, and no time should be lost in getting the number required. Those who have no stock plants should place their orders with the nurseryman now to ensure getting good plants early, so that they may be potted on and hardened off for planting at the proper time.

Dahlias can be used effectively in many ways:—

Massed in shrubberies or in beds by themselves; in the herbaceous border and the flower garden. Good rich soil must be provided and water given in plenty during dry weather.

Some of the finest varieties for massing are to be found among the so-called Decoratives, the Pæony-flowered varieties and the singles.

Among the first named may be mentioned *Crimson Flag*, a brilliant, fiery-crimson variety. *Belice*, rose pink; *Sturtt*, scarlet; *Sulphurea*, yellow, and *Warneford*, white. Of Cactus varieties *Alabaster*, white; *F. W. Fellowes*, orange or terra cotta red; *Mrs. M. Stredwick*, silvery pink; and *Sussex*, yellow, may be mentioned. Pæony-flowered sorts are popular in the garden, and the following may be recommended:—*Liberty*, orange red; *Holman Hunt*, crimson; *Grenadier*, scarlet; *Sheila*, rose pink; *Melampus*, yellow, and *Queen Wilhelmiana*, white. Collarlet varieties include *Fire-flame*, scarlet tipped yellow with yellow collar; *Henri Farman*, yellow and red, with cream collar; *Medallion*, yellow; *Joan*, scarlet with yellow collar, and *Swallow*, white. Pompons include *Adeleide*, blush; *Bacchus*, crimson scarlet; *Emily Hopper*, yellow; *Glow*, coral; *Nerissa*, rose, and *White Aster*, white.

The Mignons, which grow about eighteen inches high, are useful in many ways, and include *Albion*, white; *Benbow*, crimson; *Daffodil*, yellow, *Etna*, crimson; *Niveus*, white; *Regent*, crimson, and so on.

The now popular singles have come greatly into favour since the introduction of the beautiful Star varieties by Messrs. Cheal, of Crawley, who have done so much to popularise the best modern Dahlias. It is not correct to say that the Star Dahlias are truly single, for they consist of several rows of florets, but have open centres and are surpassingly light and graceful, and delightful for massing. Among others the following can be recommended:—*White Star*, pure white, with orange yellow centre; *Crawley Star*, rose pink; *Surrey Star*, tangerine, suffused copper and rose; *Autumn Star*, terra-cotta flushed red; *Coral Star*, coral red; *Evening Star*, pale rose; *Morning Star*, carmine shading to lake; *Orange Star* and *Scarlet Star*.

The Wheat Plant.

This is the subject of a new monograph by Professor John Percival, M.A., F.L.S., and is the outcome of many years of study and experiment. Professor Percival is well known as the Professor of Agricultural Botany at Reading University College, and his works on Agricultural Botany and Agricultural Bacteriology are standards.

This new monograph is Super Royal 8vo., and extends to about 500 pages, with over 200 illustrations. Part I. deals with the grain: germination; the root; the leaf; the stem; the inflorescence and the flower.

Part II. is devoted to History and Classification, the various cultivated races of Wheat, to hybridisation, breeding and selection and yield. The work should be of supreme interest to all engaged in wheat growing, for on an increased supply of wheat largely depends the future peace and progress of the world.

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Allotments.

THE parks in Belfast and many other towns are once again resuming their pre-war appearance. The eviction of the allotment holders has not been carried out without a certain amount of protest, but in most towns there is still sufficient land available for plants without encroaching on the public parks, which, after all, were not intended for allotments. Allotment holders could not claim the right to virtual possession of portions of land which were set apart for the general public, and from which they were practically excluded. The war arose and rendered cultivation of the land an absolute necessity, but land in parks was always laboured under suffering, and from the cessation of actual warfare the position was one of uncertainty to the plot holder, and there was every appearance at one time that they would be treated with very little courtesy indeed. The question of eviction, however, hung over so long that in the end the majority were prepared to hand over the plots without suffering financial loss at least.

The system of control with allotments in parks was fundamentally wrong in principle. Nevertheless they served an excellent purpose, and undoubtedly increased the food supplies, which was the primary and sole object in view. With allotments, as with other forms of land cultivation, the letting should not be of a temporary kind. Those allotments are best cultivated where the holders have some security of tenure. Further, according to the completeness of that control so development arises. The hedges and fences are better kept, the cultivation is higher, the sense of responsibility and satisfaction is more complete, if the whole management is vested with the holders. The formation of local committees should be encouraged, so that the interests of the groups of plots are best served. In almost any town or urban district there are evidences to show that under these conditions, veritable gardens have arisen, and it is in the multiplication of these areas that true progress in the allotment movement will be assured.

POTATOES.—This is the most important month for planting Potatoes. If the early varieties have not already been planted, a commencement should be made with these, and then the second-early and maincrop kinds. The whole of the crop should be planted this month if possible. Potatoes for planting may be about the size of a hen's egg. If the sets are much longer they may be cut lengthwise, observing that buds are on each piece. It is not necessary to mention methods of how to plant, but if the land has not been manured, to save labour manuring and planting can be done in one operation. The usual depth to plant is about four inches on heavy soils and six inches on light soils. Most of the early sorts are dwarf growers and a convenient distance between the rows is two feet, allowing one foot between the sets. The maincrops should be allowed thirty inches between the rows, and fifteen inches between the sets. If the manure is scarce as much as possible should be given to Potatoes, as this crop will stand manuring up to twenty tons per statute acre.

CAULIFLOWERS.—Any plants in frames should be planted out if this has not already been done, other-

wise they are liable to become weak and unsatisfactory. To make a succession, seeds of the variety Early London, also Veitch's Autumn Giant, should be sown. The latter is one of the most useful kinds to grow and makes an excellent sort to follow Early London.

VEGETABLE MARROW.—Seeds can be sown in small pots and kept in the dwelling-house if there is no other place until the plants are large enough to be planted outside.

CABBAGES.—These and other vegetables which were planted out in the autumn should have the soil kept stirred between the rows to encourage growth and keep down weeds. The hoe should also be run through the lines of Shallots and Potato Onions as soon as the lines of green tops can be seen. A small quantity of Nitrate of Soda will help the Cabbages to grow. If the nitrate is applied during rain it quickly dissolves and becomes available to the plant.

SEED SOWING.—Leeks and Parsnips should have been sown last month. Another crop which requires a long season of growth is Brussels Sprouts, and if not sown last month seeds should be got in soon now, so that the plants may be ready for transplanting in June. Broad Beans can be sown in the early months of the year, but a sowing may be made this month if desirable. Globe Beet, White Turnips, Lettuce and most other seeds may be sown, especially the Cabbage family. In fact, for ordinary purposes on the allotment April is the most suitable month for the Cabbage family. With ordinary cultivation seeds sown early in the month will provide plants of a good size for transplanting about the end of May or the beginning of June, without running the risk of them becoming overcrowded and weak in the seed beds. Seeds of useful herbs like Parsley, Sage, Thyme and Pot Marjoram should be sown. Herbs are best kept in a bed to themselves, or odd corners utilised. When sown in the main portion of the plots they often interfere with other operations.

THE FLOWER BORDER.—Primroses and Polyanthus are always admired in small gardens. The seeds may be sown in a box or a cold frame now. Asters and Stocks can also be sown, but some heat is necessary to raise these successfully. Although it is usually recommended to sow Hardy Annuals in groups, the allotment holder will find that sowing in lines will prevent a lot of hand weeding, and as the shape of the flower border is usually a rectangle at the end of the plot the line system is suitable. Useful kinds of annuals are Clarkia, Godetia, Candytuft and Cornflower. Sweet Peas should also be sown. Nobody who has even a small piece of ground need be prevented from sowing. Mixed packets of seeds are very cheap, and a few pence will purchase a packet of mixed varieties.

G. H. O.



LILAC

"The first whiff of their perfume in the garden is as the very heart and soul of memory."—E. V. B., "A Garden of Pleasure."

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to H. B. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

KITCHEN GARDEN.

ASPARAGUS BEDS.—Carefully prick over the surface of the permanent Asparagus beds with a small fork, breaking all lumps, and leave a very fine surface to allow the young growths to come straight through the soil. Give a slight dressing of a quick-acting manure, and on light soils a dressing of salt. The present is the best time to prepare and make new beds, choosing a well sheltered position. When planting cover the young crowns immediately with four inches of fine soil. Do not allow the young plants to stay out of the ground longer than can be helped. Sow seeds for future use.

GLOBE ARTICHOKEs.—New plantations of Globe Artichokes should now be made on well trenched ground; allow a space of five feet between the rows and four feet from plant to plant. Mulch with long litter as soon as finished.

BROAD BEANS.—Make a final sowing of Broad Beans. Draw a little soil to the stems of earlier sowings; plant any raised in boxes at the earliest convenience and watch for slugs.

BEET.—Sow a few rows of Globe Beet on a warm border, and when the ground is in good condition get in the main crops of Blood Red, Dell's Crimson or Sutton's Black. Where extra choice specimens are required bore for them similar to Carrots, &c.

CAULIFLOWER.—Where autumn sown Cauliflowers were pricked out into frames, and have been gradually hardened off, they will require planting in their permanent quarters. Choose a rich piece of ground and give a slight dressing of "Nitrate of Soda." Make the soil firm about the roots and do not allow them to suffer from drought. Watch for slugs and birds. Later sowings should be pricked out into nursery beds and protected from harsh weather. Make a final sowing of Autumn Giant.

CARROTS.—As soon as the young Carrots are through the soil, dust with soot and run the Dutch hoe between the rows. Make another sowing of stump-rooted varieties to supply young roots.

POTATOES.—Finish the planting of all Potatoes, and give protection to the earliest plantings as soon as they are through the soil.

PEAS.—Seedling Peas raised in boxes will require to be planted out the first opportunity. Continue to sow Main Crop Marrowfat every week; give support when two inches high. Trace mips and be on the alert for slugs.

TOMATOES.—Give Tomatoes a shift into 6-inch pots for planting out; plants fruiting under glass will require constant tying, disbudding and feeding. Give air on all favourable occasions, and water with tepid water.

LETTUCE.—Make a sowing every ten days throughout the season. Prick out the plants as they become fit and grow quickly.

CUCUMBERS.—Keep all growths carefully regulated,

and add good top-dressings as the roots appear through the soil. Keep the frames covered at night, and admit air very carefully.

FRENCH AND RUNNER BEANS.—If sufficient space is at command, make a sowing of both French and Runner Beans for planting out later; raise in cold frames and keep them growing sturdily.

MUSHROOMS.—Prepare manure for the summer crop of Mushrooms. In making the beds out of doors keep the manure very firm. Keep the mushroom house well damped in hot weather for bearing beds, and turn off any fire heat.

LEeks.—Plant out the first sowings of Leeks in well prepared trenches and prick out later sowings.

ONIONS.—Onions raised in January should be planted with care in their permanent quarters. Use the Dutch hoe whenever possible on all the growing crops.

SEED SOWING.—Make good sowings of Winter Broccoli, Savoy, Kales, Cabbage, Kohl Rabbí on a south border and protect from birds. Make a good sowing of Parsley, Radishes and Turnips. Spinach and all saladings must be sown according to requirements.

MARROWS.—Sow a quantity of Vegetable Marrows and raise in heat; pot into 6-inch pots when ready.

CELERY.—Prick out the earliest sowings of Celery as the plants become fit. Keep the young roots straight and keep well supplied with water.

HARDY FRUIT GARDEN.

APRICOTS.—Search carefully for the small caterpillars that do so much damage to the young Apricot foliage and small fruits, and destroy every one. Proceed with disbudding before the shoots become too long. Remove those on the underside and back, leaving the well placed shoots for extension, &c., leaving the spur shoots a little longer. Endeavour to summer prune Apricots rather than using the knife too much. Young trees making excessive growth are better lifted in the autumn. Allow the trees plenty of light and sun and a well drained border, and never allow the roots to suffer from drought.

FORCED STRAWBERRY PLANTS.—Where it is intended to plant the Strawberries that have been forced, every care must be taken to harden them off properly. Keep well supplied with water and carefully syringed every afternoon. Plants thus treated will bear excellent crops next season in the open ground. Royal Sovereign is one of the best for this purpose. It is advisable to place all plants that are being forced into a cool house, with full sun, as soon as they begin to colour, thus getting a first-rate flavour, which is often missing in forced fruits.

PEACHES AND NECTARINES.—Remove any protection as soon as the weather is favourable and start disbudding. These trees require this operation to be carried out with great care, and extended over two or three weeks. Remove all foreright shoots and finally leave the leading and best placed basal shoot, and generally one about the centre, according to the state of the tree. In old trees that have filled their allotted space the leader must be stopped. Finally, endeavour to allow each shoot six inches from its neighbour. Thin the fruit concurrently with the disbudding, first removing the ill-placed fruit and where they have set in bunches. See that the borders are

well supplied with water. Be on the watch for greenfly and peach leaf blister, and destroy immediately.

RASPBERRIES.—Give the Raspberry plantations a good Dutch hoeing, then apply a good mulching of manure, the Raspberry being a gross surface feeder.

WALL TREES.—All wall trees that are flowering should be well protected during frosty weather, removing the coverings in the day time. Most of the trees require unremitting attention throughout the season to keep them thoroughly clean and healthy. See that all ties are secure and not too tight to injure the bark. Syringe well with Quassia Extract or advertised insecticide to keep down aphids. Attend carefully to the watering; many trees often suffer terribly from drought.

GRAFTING.—As soon as the sap rises freely proceed with any grafting that has to be done. This requires skill and patience and must be done carefully. When finished keep the scions damped with a fine spray during hot, dry weather; it will also keep the clay from cracking open.

FRUIT BORDERS.—Do not allow any vegetables or flowers to be planted closer to the fruit trees than four feet, as it is quite necessary to have this amount of space for working operations; the roots also require all the goodness and moisture of the soil.

RED AND WHITE CURRANTS.—The currant moth begins to feed on the young Currant foliage early this month, and should be sprayed well with paraffin emulsion before the leaves are fully expanded.

GENERAL WORK.—Keep the hoe busy in all fruit quarters, and endeavour to keep everything clean and in good order. Cut and cart a good supply of loam whenever possible for next autumn planting and topdressing. Give all stone fruit an occasional dusting of lime to assist the trees during the stoning period; guard against drought in any form. Trees recently planted and not breaking into growth should be kept syringed and shaded from bright sunshine.

PLEASURE GROUNDS AND FLOWER GARDEN.

SUMMER BEDDING PLANTS.—Specimen plants that were placed in their final pots last month are now making rapid progress, and towards the end of the month remove them to cooler quarters. Fuchsias, Zonal Pelargoniums, Heliotropes, Marguerites, Dahlias, Verbenas, Lantanas and Lobelia should be placed in cold frames and gradually hardened off. Watch for frosty nights and cover the lights with mats.

PLANTS FOR PRESENT PLANTING.—Endeavour to get Pontstemonas, Violas, Antirrhinums, East Lothian Stocks, Hollyhocks and summer-flowering Chrysanthemums planted in their permanent positions as soon as possible. Take up with good balls of soil, and when planting make the holes large enough to place the whole in position without breaking the ball. It is one of my greatest difficulties to get the holes made large enough. Somehow the planters want to squeeze the plants into the smallest space, then they wonder if the plants stand still for a considerable time. On no account ever plant or pot a dry plant; it is fatal.

GLADIOLI.—Select a well tilled piece of ground for

the Gladioli, which now require attention. Cover the corns with about four inches of soil, and neatly label each variety. When planting in the herbaceous borders be very careful as to the colour, otherwise they may clash terribly with their neighbours. There are many beautiful varieties. America is still a magnificent variety that would go almost anywhere. *Princeps* is a giant scarlet. *Lemoine's* hybrids are very fine.

ORNAMENTAL GRASSES.—The ornamental grasses make a bold show and are very useful for winter decoration. The following are a few worth growing: *Eulalia japonica*, *Elymus canadensis*, *Agrostis nebulosa*, and *Lagurus ocratus* and *Hordeum jubatum*. Planted by streams in the wild garden or in groups on the lawns, they are always in keeping.

ANNUALS.—What a wealth of flowers are under this heading. Many may be sown now out of doors where they are to flower. In all cases sow thinly and when the ground is in good condition. *Mignonette*, *Nasturtium*, *Lupins*, *Larkspurs*, *Godetias*, *Nigella*, *Linarias*, *Poppies*, *Asters*, various *Chrysanthemums*, *Lavateras*, *Loveliness* strain, *Malope* and *Sweet Peas* are just a small selection according to taste. *Phlox Drimondi*, *Marigolds* *African*, &c., *Nemesia*, *Scabious*, *Ten Week Stocks* and the *Mammoth Asters* are better sown under glass and pricked out when large enough to secure the best effects.

FLOWERING SHRUBS.—Any plants of *Deutzias*, *Cerasus*, *Lilacs* and *Prunus triloba* that have been forced should be carefully pruned as soon as flowering has finished and planted in a rich border for two or three seasons to recover their strength. *Forsythias* and *Ribes* require pruning when flowering has passed to enable them to make plenty of flowering shoots for next season. *Nuttallia cerasiformis*, a greenish white flower, is also well worth a place in the smallest collection.

HERBACEOUS BORDERS.—Use the Dutch hoe whenever possible and watch for slugs, especially around choice *Delphiniums*, &c. Prepare stakes in good time and make up all vacant places. See that the bulbs in flower are correctly labelled and in good health. Watch for the narcissus fly.

LAWNS AND WALKS.—Lawns will require weekly mowings now. It is false economy to allow the grass to become long and no time is gained in missing it for a week. Keep the machines well oiled and cleaned and put away after each day's work. Do not allow the grass to remain on the lawn after mowing. Finish everything off each evening. Edge the walks regularly and use the weed killer according to directions. This will save and clean the walks quicker than anything else. Keep all climbers tied up in good time, and give all garden seats a good painting before placing in the grounds for the season.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

ARTICHOKES, GLOBE.—Remove the protecting material from these plants now and lightly fork in some well rotted manure. If new plantations are intended secure strong side suckers with a few roots

attached, planting them on trenched ground, in drills five feet apart and three feet between the plants.

BROCCOLI.—Sow seeds during the later part of the month in an open situation to provide plants for winter and spring supplies.

BEANS, BROAD.—Plant out those raised under glass if not already done. The maincrop should be sown during the month in double lines six inches apart and three feet between each double row. In due course supports will be required for these, and a good plan is to run a strand of coir rope along each side of the drills, fastened to stakes at intervals.

CAULIFLOWERS.—If these are planted in large batches at one time too many come into use at once, consequently a large number go to waste; better to plant a few at intervals according to the demands of the kitchen. Another small sowing may be made about the end of the month, such as *Hurst's Express* and *Early London*, which will come in useful late in the autumn.

CABBAGES, BORECOLE, BRUSSELS SPROUTS AND SAVOYS should be sown about the middle of the month; earlier sowings should be pricked out or planted when large enough. Early spring Cabbage may be hastened on with a dressing of Nitrate of Soda, hoed or grubbed in.

CARROTS.—The end of the month is early enough to sow the maincrop. Select a deeply worked piece of ground that was well manured for a previous crop and thoroughly break it up with the fork; give a dressing of soot, wood ashes and salt, raking it well in. Sow very thin in shallow drills twelve or fifteen inches apart. Make another sowing of the stump-rooted variety for early use.

FRENCH BEANS.—Towards the end of the month a sowing may be risked outside on the early border, and at the same time sow a good batch in pots or boxes for planting out in May, these will give a picking well in advance of the others if protected for a bit after planting.

HERBS.—Those of the annual varieties should be sown this month, and others split up and replanted, if not already done, finishing off the border neatly.

LEeks.—Sow the maincrop early in the month. Leeks require a good rich soil in an open situation, and if not prepared may be done now.

LETTUCE.—To keep up a daily supply make a sowing about every fortnight. Sow as thin as possible and thin them out later to nine inches. Keep the hoe working to encourage a quick growth.

ONIONS.—Plants raised early in the year in boxes should be fit to place in their quarters whenever the soil and weather will allow; carefully lift without damaging the roots, and plant with a trowel, getting the roots straight down, making the soil firm around them. Towards the end of the month sow seed to provide bulbs for pickling; choose rather poor ground, as the aim is to have small, well ripened bulbs; no thinning will be necessary.

PEAS.—Make successional sowings according to requirements; allow from fourteen to fifteen weeks from the time of sowing till required for picking. Stake all former sowings made outside as soon as through the soil, and apply the hoe frequently along the drills.

POTATOES.—Complete the planting of all late varieties during the month, allowing a space of three feet between the drills and half that from set to set; if planted too close the haulm gets drawn and weak, resulting in poor crops.

SPINACH.—A sowing may be made fortnightly of the Victoria variety on rich ground, and thinned early to secure large thick leaves. During the hot dry months it would be advisable to sow on north borders, as the plants soon run to seed in the summer. A useful variety to grow is the dark-leaved Spineh, but which will give a continual picking during the summer and autumn.

SPINACH.—Root cuttings taken off when lifting the crowns for forcing should be planted out in drills two feet apart and fifteen inches between the roots, placing the crown just under the surface, and when well started reduce all the growths but the strongest one to form a good crown.

SWEET CORN.—Sow in boxes about the last week of the month in light soil, placing the seeds two inches apart, and place in gentle heat. Harden off gradually, planting out at the end of May on good rich ground in a warm sheltered position. Attend well to watering in dry weather.

TUNERS.—Make further sowings at intervals to keep up a supply of tender roots; encourage a quick growth, and dust the plants with soot in the mornings when the leaves are wet, which will prevent the attacks of fly.

GENERAL REMARKS.—Attend to the thinning of seedlings as they become fit and prevent overcrowding. Keep the hoe going amongst all crops on favourable occasions. Box edgings may be clipped now and the walks hoed and raked, making the Kitchen Garden neat and tidy.

THE FRUIT GARDEN.

It may still be necessary to continue the protection of some of the fruit trees on open walls, but should not be used in such a way as to cause a weak spindly growth. Where old fish netting is employed there is little danger of this, but if tiffany or other close material is used it must be removed in the daytime.

The present month is a good time to prune newly planted trees, cutting the young wood back to a bud pointing in the direction the shoot is desired to grow. In the event of dry weather setting in, late planted trees, and also wall trees, will require attention as to watering. Give a thorough soaking and the following day lightly fork up the soil round them and apply a light mulch to conserve the moisture.

STRAWBERRIES, if not already mulched, should be attended to before the flower trusses are far forward. Half decayed stable litter may be used, placing it close round the plants. Before the fruits are formed this will be washed clean for them to rest on.

Grafting should be completed now, and the clay kept well damped to keep from cracking and admitting the air.

PEACHES and NECTARINES when well set should be disbudded gradually, starting at the top of the trees and working downwards, going over a small portion daily to avoid giving them a check. Retain the best side growths suitably placed to furnish the tree with fruiting wood for next year's crop. Partially thin the fruits when the size of peas, which will help to ease the strain during the stoning period, finally thinning them to about ten or twelve inches apart, according to the vigour of the tree. Over-

cropping should be avoided. Watering and feeding should receive attention and regular syringing to keep down Red Spider.

CHERRIES and PRUNES growing against walls are subject to attacks of greenfly at this season and if not checked on the first appearance soon spreads and does much damage to the young shoots. Syringe with a good insecticide at once, such as Quassia Extract.

THE PLEASURE GROUNDS.

Half-hardy annuals sown last month will require pricking off singly into frames before they get crowded in the seed pans; after recovering from the check, give ample ventilation to secure good stocky plants at bedding out time.

HARDY ANNUALS that wont bear transplanting may be sown during the month. The soil should be in good condition for working and raked down to a fine surface, as many of the seeds are very small. When the seedlings are well up thin them out to get good results.

PERENNIALS of all kinds may be raised from seed sown this month; prick them off in nursery lines on the reserve border when fit to handle, until the autumn, when they may be transferred to the borders. Gladioli are more effective planted in large clumps in separate colours than dotted over the borders. Corms may be planted now on rich, well drained soil; plant about four inches deep, placing a little sand in the hole; stake and tie up the spikes as they develop.

Lobelia Cardinalis may be split up into suitable pieces and either planted right away or placed in frames till bedding out time.

ROSES.—Complete the pruning early in the month, and, as the beds are finished fork in some well decayed manure; failing a supply of this a dressing of bone meal or superphosphate will be of great benefit.

ROCK PLANTS wintered in cold frames may be planted out now. Keep all weeds picked away as they appear.

SWEET PEAS.—Plants raised in pots last autumn may safely be put out now; put stakes to them at once and protect from cutting winds with spruce branches. Tie up the growths against wind breaking them.

VIOLETS.—Towards the end of the month new plantations should be made to supply crowns for next winter's flowers. Break up some of the old plants into small pieces, with a few roots attached, and plant on borders sheltered from the north and west. Planted in beds of five lines, twelve inches apart for the doubles and fifteen inches apart for singles, with a two-foot alley between, cleaning and pinching can be done without treading amongst the plants. Keep the hoe working during the summer.

April is the best time to plant Bamboos. Lift with good balls of earth and apply plenty of water in dry weather. Clip Yew hedges about the end of the month. The pruning of *Buddleia Veitchiana*, *Hydrangea paniculata* and *Ceanothus Gloire de Versailles* should be done now. Harden off bedding plants gradually, finally placing them in the open.

Sweep and roll lawns and tennis courts before putting the machines on, making the grounds tidy and attractive.

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MAY

1921

EDITOR—J. W. BESANT

In a Cheshire Garden.

By E. B. ANDERSON.

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BOTANICAL

HERE, as in most other places, the winter was extremely wet up to the end of January, followed by a dry February. The early winter was characterised by two spells of severe frost, 15 degrees to 20 degrees being registered in this district. The effects on plants are interesting. *Cistus rosmarinifolius*, *Helianthemum umbellatum* and *Lupinus argenteus* killed, and *Spartium junceum* badly hit; on the other hand, *Kerria japonica* fl. pl., not against a wall, which in previous winters has suffered badly, has come through well and is now covered with buds. *Primula helodoxa*, whose hardiness has been open to doubt, is alive and well, and *Æthionemas* were hardly browned. But it is in March that the death rate begins to mount up: plants which have survived until then have become weakened by attempts to grow during the mild spells, and the constant rain, finally disappear under the stern test of the east winds. Recently I have mourned the loss of the beautiful *Achillea Kellerii*, which, two winters in succession, has succumbed in March, although in very sandy soil. My last trial will be on a miniature cliff, where the drainage is excessive. On the other hand *Achillea Wilczewii* thrives amazingly, hardly so beautiful in foliage, the flowers are more attractive, large, dead white and borne profusely. It was only last summer that I really appreciated the beauty of this species, although acquainted with it for many years at Glasnevin. *Potentilla daurica* is another plant which is difficult here. Two years in succession it has started to leaf in January, only to have the foliage destroyed later: as a result the plant is slowly but surely departing to a better land.

In the interesting series of articles on rock gardens now appearing in IRISH GARDENING the writer, very wisely, lays emphasis on the necessity for hills and dales in the rock garden in order to provide as many aspects and varied conditions of moisture and temperature as possible. It is often impossible to say where a plant will succeed; small differences in shelter and moisture make all the difference between failure and success. In fact, for the first few years rock gardening is largely a study of the physical geography of the site, and on the results of these early experiments a successful garden is formed; therefore it is very necessary to try the same species in different parts until one gets

to know where, speaking generally, different families or allied groups thrive best. To accomplish this without becoming bankrupt in the attempt, I strongly advise raising plants from seeds, and planting the resulting seedlings in different positions, and carefully studying the growth and flowering of the different specimens. The interest is great and the knowledge gained of great value as one advances from the commoner plants to the more difficult in the attempt, common to all enthusiasts, to have a garden abounding in beautiful and rare species all in the best of health. To illustrate this I will quote one experience from my own garden. One side of the rockery is a low terrace, constantly swept during the winter by N.E. and S.W. gales; its flora will certainly be a survival of the fittest. On the top, laugh as you may, *Aubrietias* are blown out of existence; in fact, I only saved a plant of *A. Dr. Mule's* by timely removal. On the other hand, on a particularly exposed spot, subject also to strong currents reflected by the house, *Lithospermum intermedium* thrives and flowers excellently, and in a small bay protected only by two promontories about 12 inches high, *Oralis adenophylla* thrives excellently.

Although opportunities for enjoying the garden in January and February are often rare, yet there is no doubt that the smallest flower is appreciated in these months, and none more than the Saxifrages. Mine started off with *S. Burseriana Magna* on January 16th, followed by *S. x Kestonensis* on 23rd; this latter is an exceedingly free-flowering hybrid between *S. Burseriana* and ? *marginata*. Equally good are *S. Burseriana Gloria*, a rapid grower with bright yellow blooms; *Burseriana multiflora*, *Iringii*, *Godseffii* and *Jacqgeana*. For these Saxifrages there is no doubt that the miniature cliff or mound of unbedded rocks is the position they love: neither the drought of 1919 nor the deluge of 1920 affected plants on these positions. While talking of Saxifrages I must mention a most distinct form of the oppositifolia group not often seen, viz., *S. R. M. Prichard*. This forms lax tufts of the usual oppositifolia type and freely bears large lilac rose flowers with pointed petals, not rounded as in most other forms. Not to be missed early in the year are the various *Pulmonarias*: *rubra* with green foliage and distinct red flowers. *Mrs. Moon*, with spotted foliage and pale carmine pink flowers, and nearest and perhaps most beautiful of all, *P. angustifolia azurea*, forming neat tufts of dark green

foliage and bearing in wondrous profusion gentian blue flowers. Of course, in early spring one looks



Courtesy of)

GLADIOLUS.

[Hassall & Read

Hooded Flowered Type.

most. I am beginning to think that there is a lot of difference between what one might call "cold" shade, or a N. aspect, and "warm" shade, or a position normally sunny but shaded by rock or shrub. I propose to test this theory next spring. Two other plants which I find it a little difficult to establish, although books are rich on the subject, are *Hebe* and *Ranunculus*, especially the former. Planted in a N. aspect they certainly are growing but have not yet condescended to flower, but succeed they must do unless I become bankrupt first. Finally, I must call attention to the exquisite *Sarracenia* section: the sprays of waxy apple blossom are freely borne, last well, and the foliage colours beautifully in autumn. It is quite happy in a slightly shaded place in ordinary sandy soil.

Gladioli.

THESE popular flowers were never available in greater variety than to-day, and corms may still be planted for an autumn display. Some fifteen or twenty years ago it was possible to distinguish fairly well between such races as *G. Lemnii*, *G. Childsii*, and *G. Nanceianus*, but of later years hybridists have so intercrossed all these that it is almost impossible to tell where one begins and another ends. Most firms now offer them in colour groups, a very satisfactory way, for then the purchaser can select the colours wanted, or may select a few from each group to taste. The *Primulinus* hybrids are generally distinguishable by the yellow and orange colours, which are such an added attraction to these beautiful flowers. Good soil deeply dug and well drained suits Gladioli admirably. The addition of manure to heavy soil is not advisable, but in light soils it is beneficial if it is dug in deep enough, so that the corms do not come into immediate contact with it when planted.

Gladioli may be planted in groups in herbaceous borders, where, if the soil is light, holes should be opened a foot deep, into which a small forkful of manure may be placed, covering this with a couple of inches of soil; on this the corms may be placed six inches apart, filling in the remainder of the soil on top. They may also be planted in beds of *Paeonies* or other herbaceous plants grown by themselves, in beds of dwarf shrubs or in beds by themselves. In the latter case it is a good plan to sow an annual over the bed after planting to furnish the base of the Gladioli. *Gypsophila elegans* makes a pretty groundwork for any colour of Gladioli, but *Clarkias*, dwarf *Godetias* and many other things may be used.

As the flower spikes develop neat stakes must be placed to the plants, as the spikes are heavy and easily broken down by wind or heavy rain. Never allow the plants to become dry and a most pleasing and satisfactory display will be certain.

Contrasts and Longevity in the Rock Garden.

ONE could obtain some delightful contrasts in the Alpine garden if we could only get our subjects to flower at the same time and under similar condi-

for *Crocus* species; this is not a *Crocus* climate, but one must grow them—but this year I have been forcibly impressed with the advantage of growing species which do not hide all their beauty inside the flower. For instance, *C. dalmaticus*, with buff exterior, I only enjoyed once owing to the prevalent low temperature, whereas golden *C. gargaricus*, wine purple *Tommasinianus* and rosy lilac *Heuffellii* were a joy from the moment the flowers emerged from the sheath; the latter species should be more generally grown. The medium sized flowers are produced freely and are of a delightful warm rosy lilac shade, sometimes feathered externally, and to increase the beauty the cups are poised on soft orange tubes. A small group on a sunny ridge was a great joy during February. Does everyone else succeed with *Primula cashmirciana* except myself? Planted in peaty soil with N. aspect it grows well and forms plenty of buds, some of which decay in the winter wet; others push up and open a few flowers, but before the head is a lilac ball the east winds arrive and nothing more happens. This is not due to lack of moisture, for the soil remains quite

tions. This is, however, a very big "If," and our opportunities are severely limited.

A lovely contrast is that of *Oxalis enneaphylla* and *Gentiana acaulis*. The former can always be relied on to bloom freely; the latter may bloom one year and fail the next. Last year I was fortunate enough to have the two in bloom at the same time, and the effect was a joy.

A good contrast to *Sax. oppositifolia* can be gained by a clump of *S. apiculata alba*, which, although it comes into bloom earlier, yet lasts a long time and will still be good when *oppositifolia* is at its best. Under favourable circumstances *S. burseriana Gloria* gives a finer effect than *apiculata alba*, but it does not stand rough weather very well and cannot be relied on.

A group of *S. Cotyledon pyramidalis* behind *Lithospermum prostratum* is a fine combination, or *Arenaria montanum* may be placed alongside the *Lithospermum*.

Antirrhinum usarina is not met with so often as its merits entitle it to be. It is a beautiful plant and a vigorous grower but does not survive the winter very well. As, however, it sets seed very freely which germinate well, there is no difficulty in maintaining a stock, and a well grown plant in bloom trailing down the face of a rock is a fitting companion to *Campanula muralis* (*bavarica*), its large creamy flowers making a brilliant contrast to the purple bells of the latter.

Asperula nitida, with moss-like foliage and pink flowers, may be planted near to the small *Campanula garganica erinus*.

Other combinations and contrasts in foliage as well as in colour of flower will doubtless suggest themselves to the observant gardener, and nothing has been said about the fine effects produced by the judicious grouping of *Aubrietias*, *Alyssums* and *Arabis* in large flowing masses, as these things are only for bold rock work in spacious places.

The vast majority of Alpine plants are classed as perennials; but perennial is a very relative term, and the longevity of Alpines under cultivation is an interesting and important question for all of us who are trying to solve the secrets, or read the riddles of growing them with more or less success.

When looking at some rather good specimen of a difficult and delicate plant the writer often asks, mentally, "How long has it been there?" It is an easy matter to have a fine show of, say *Saxifraga Boydii* and *Faldonside*, by the simple expedient of putting out plants in February or the beginning of March which have been wintered in a frame or a cool house; but the rock garden is a place for growing Alpine plants in, year in and year out, and not a place for bedding out for the flowering season.

Individual experiences will vary, but by the collation of much experience we shall in time arrive at a list of those plants which, with ordinary care, will prove as truly perennial as the plants of the herbaceous border.

As a small contribution the following notes on some of the plants in the writer's garden may not be without interest.

The majority of the encrusted or silver Saxifrages can be dismissed in a sentence. They were planted twelve years ago and increase year by year.

Saxifraga oppositifolia, which some authorities tell us should be taken up, pulled in pieces and replanted every three years, has been in its present quarters since 1911, and is now a mass nearly a yard in length. It shows no sign of going off and this year was more vigorous than ever and a sheet of bloom.

In the *Kabschia* section *S. Elizabethæ* takes premier place. Planted in 1910, it is now a mass of about eighteen inches square, has never been lifted and blooms profusely every year. *S. apiculata* runs it very closely; planted at the same time it has also made a large mass, but with a tendency to rust in places. *S. scardica obtusa*, put out as a small plant in 1910, made a large dome-shaped cushion and was the picture of health and vigour down to last winter, when it suddenly began to rust rather badly, and will have to be taken up, and the bits that are living potted.

S. L. E. Godseff is another vigorous doer and is now eleven years old.

S. marginata, *S. Rocheliana* and *S. coriophylla* increase and flourish for five or six years. After that they are liable to turn brown in patches, and



Courtesy of]

GLADIOLUS.

[Hassall and Read

Open Flowered Type.

when this occurs it is best to lift them after flowering and replant the good pieces.

S. Paulineæ is entitled to rank with the long livers

when in a place that it likes. One good clump here is nine or ten years old.

In the Burseriana group *S. speciosa* seems to be the only one that flourishes without division for any length of time. One good sized piece planted ten years ago has increased in size year by year but is very sparing of its blossoms. *S. glorioa* cannot be left to itself for any length of time, and the writer's experience is that it needs constant division to keep it in vigorous health.

Periodical division is also necessary for the *Englerius* *S. media*, *S. porphylla*, *S. thesalica*, *S. Frederici Augusti*, *S. Grisebachii*, *S. Striburny*, *S. Stuarti*.

Androsaces such as *Laggeri*, *villosa*, *chama jasme*, and *lactea* are all short-lived here, but *sarmentosa* and *chumbyi* are still flourishing and increasing though planted eleven years ago. *A. lanuginosa* lived for nine years and I am not quite satisfied that its demise was due to natural causes.

Dianthus neglectus was planted twelve years ago, has gone on increasing until it is now a large clump. Every year it is covered with bloom and gets no attention save that a piece is chopped off now and then for some friend! I am inclined to think that many of the Campanulas would live for ever were it not for the slugs, which are most persistent in their attacks on those kinds which die down in the winter. Directly the new growth begins to push through in the spring the enemy appears and nibbles it off. Zinc rings afford some protection but are ugly, and a coating of crushed, sharp granite is also useful in keeping the marauders at bay.

Campanulas like *garganica* and *acutangula*, the foliage of which is persistent, seem able to hold their own against snail and slug and are long-lived.

J. HARPER SCARFE.

Rock Plants.

(Continued from page 42.)

HEATHS of all kinds are ever welcome in any position, but for the rock garden the dwarfer kinds are the most suitable. A gem few would like to be without is *Erica carnea*, flowering from winter far into spring, cheering all with its wonderful, deep, flesh-coloured flowers; the white variety is liked by some but is much inferior to the type. More beautiful are the forms distributed by Messrs. Backhouse, which vary in shade of colour, and to some extent in habit also. Such forms as *Princess Mary*, *The Pearl*, *King George*, &c., are all of much charm and give great interest to the rock garden in early spring. In soils free from lime the Cornish Heath *Erica vagans*, and especially the delightful soft pink form, *St. Keerne*, is useful in late summer and autumn, as also are the Scotch Heath, *Erica cinerea*, the Dorset Heath, *Erica tetralix* and the common Ling *Calluna vulgaris* in its many beautiful colour forms. *Eriogonum* is a little known genus not often met with in private gardens. About half a dozen species at least are in cultivation and of these the commonest and most ornamental is *E. umbellatum*, which makes wiry, woody shoots furnished at the ends with tufts of leathery leaves, and producing in summer umbels of yellow flowers; it likes a sunny position in sandy, well drained soil.

Erodiums are numerous and justly popular. Some few are too coarse to merit inclusion among choice rock plants, but on the other hand some are certainly indispensable. *E. chamaedryoides* is one of the best, a dainty dwarf with small roundish leaves, from among which appear the white flowers delicately veined with pink; a choice plant for a sunny sheltered position. *E. Chrysanthum* must rank as one of the best; with silvery, fern-like foliage and clear, pale yellow flowers it always makes an attractive picture.

E. guttatum, with silvery foliage and white flowers veined with violet, is another indispensable.

E. macradenum, with flowers of light violet, and dark blotches, is quite one of the best and should be included wherever possible. *E. supracanum* cannot be omitted even if it gave nothing more than its silvery leaves, though the pink-tinted flowers are also attractive.

E. trichomanefolium, one of the best known, is also among the choice species; the leaves are grey-green and the flowers pale pink, with veins of a deeper shade.

When we come to Gentians we are confronted at once with some of the most beautiful of all Alpine plants, but, alas, also some of the most difficult to cultivate. If we take *G. acaulis* as an instance we shall find that some people will say it is perfectly easy and flowers in abundance if divided and planted in rich soil every three or four years and in this way Mr. Hum Bland does it magnificently at Blandsfors in Queen's County. In other gardens but a few blooms appear no matter what the treatment it receives. Again, how elusive is *G. verna*, the glory of our western hills from seashore to summit. There is reason to hope though that by seedling raising the difficulties in flowering *G. verna* may be overcome; at least, Mr. Walpole has "yards" of seedlings at Mount Usher the picture of health, and his gardener, Mr. Fox, has apparently got over the difficulty, as he has with many other good things. *G. verna angulosa* is easier to flower and keep and is no less beautiful.

Of such beauties as *G. arvense*, *G. bavarica*, and *G. brachyphylla*, little need be said as they are rarely seen in health for any length of time, and the only chance seems to lie in making a special bed for such treasures something on the lines of a moraine, very well drained below and with the top six inches or so composed of sandy loam, peat and sharp grit. There is a possibility that in their native habitat these species live symbiotically with some fungus investing the roots, and until this fungus can be induced to accompany them into cultivation complete success is a matter of doubt. A most satisfactory species is *G. Freyniana*, a strong though not coarse grower producing many decumbent shoots, well furnished with leaves and terminated in July by clusters of large deep blue flowers. Of similar habit is *G. septemfida*, of equally good colour and robust growth, coming up well every year if protected in the early stages of growth from slugs.

G. Purdomii is a good plant of trailing habit, scarcely rising from the surface of the soil, and bearing at the ends of the shoots long tubed blue flowers of rare beauty. Of somewhat similar habit is *G. Kurroo* with rather larger flowers of bright blue. All the Gentians are interesting, many of

them of rare beauty, but every gardener must find out the species suitable for his own garden.

Among the *Geraniums* there are several well suited for rock gardens. *G. argenteum* is one of the choicest of rock plants, alike for its silvery leaves and rosy pink flowers. *G. cinereum* likewise should not be omitted; the silver grey leaves and dark rose-purple flowers making a rare combination in the early summer. *G. Traversii* is also of the dwarf, silvery leaved section, and crossed with another species gave rise to the showy *G. Russell Prichard*, a good plant for massing for colour effect, though the pink is rather "hard." *G. Webbiana* is another dwarf with white flowers and makes an interesting variation. *G. Wallichianum*, a sprawling grower taking up a good deal of space, is nevertheless valuable for its fine blue flowers in late summer; for the same reason *G. Fremontii* is worth growing, though the habit is more erect and the flowers pink. Of the *Globularias* the dwarf, mat-like species are the choicest for medium-sized gardens. Such species as *G. cordifolia*, *G. nana*, and *G. incanescens* are really interesting rock plants and of considerable beauty when well furnished with their heads of blue flowers. Several stronger species are in cultivation and may be used effectively in large gardens. *Gypsophila*, in one form or another, is beloved of all, and for the rock garden quite a number of dwarf species is available. One of the best is *G. cerastioides*, a tufted plant 2-3 inches high bearing white flowers with red veins. *G. repens*, white, and *G. repens rosea* are both of trailing habit and flower freely in sunny positions.

(To be continued.)

Primulas.

Present Plans for Winter Beauty.

CONSIDERED in the light of winter flowering plants that bring brightness and charming colours to a greenhouse from October to March few subjects are so simple to grow, or are of more service than *Primulas*. He who would have his house gay with them next winter should not overlook the fact that to have them in bloom over the longest period arrangements ought to be made now for the sowing of seed. My own experience prompts me to say that steady, uninterrupted growth is better for these plants than to defer sowing until the summer has advanced. As a matter of fact, there is no "express service" from the seed packet to the flowering time of *Primulas* if one desires healthy foliage and bold trusses for the darkest days of winter.

ARRANGEMENTS FOR SOWING.—In obtaining seed do not be led astray with the idea that the cheapest is the best. That is not always the wisest investment, and besides flowers that remain with us for months, as these do, are worth the little extra cost involved by an outlay of the best seed.

METHODS OF SOWING.—It not infrequently happens that those who for the first time take up their culture do not pay sufficient attention to details in the first instance, and it is no uncommon thing to hear blame laid at the door of the seedsman. Pans

or boxes capable of holding three or four inches of soil will be required. Let these be filled three parts full of a compost made up of decayed loam which has reached the mellow stages and falls to pieces, and leaf mould. Pass this through a fine sieve and place a layer or two of the rough portions at the bottom. Mix with the sifted compost a little silver sand, slightly pressing it down and making level; then take the seed and sow it thinly on the surface, watering it in with a fine roset pot. A slight covering of the compost, or a sheet of brown paper placed over the pan will complete the operation. I find the best time to sow *Primula* seed, to ensure plants commencing to bloom without much trouble, towards the end of October, is from the middle of April to the middle of May. Seed so dealt with, and placed in a temperature of about 55 degrees, will begin to germinate in about ten days time. A greenhouse, or a striking pit, will answer, but if in the latter the pan should not be kept too long, as it is important that anything like coddling should be avoided.

COLOR SELECTION.—There is a delightful assortment of colours in the *Primula sinensis* of to-day, thanks to the untiring work of the hybridists, that would have charmed florists of a previous generation who had to be content with a very meagre assortment. Now, we can take our choice of colourings that embrace crimson and ruby, rose and salmon, and vermillion, blue and white. We may have beautiful double sorts that our forefathers never imagined, and all these can be raised from seed sown in these early spring days for providing a glorious display of colour in the gloomiest time of the year. Exceptionally graceful, too, are the *Stellata* forms; these are splendid for table decoration.

POTTING PLANTS ON.—It is advisable to pot on by degrees, i.e., to use the size actually required for the occasion, beginning with thumbs for the first shift after the seed pan, then follow on until the maximum size is reached, which may be five or six inches.

FRAME TREATMENT.—There comes a time when a cooler atmosphere is needed than that of the greenhouse, and during June provision must be made for removing them to a frame out of doors, but it should be a frame where coolness as well as warmth is available. It will be obvious, therefore, that the position of the frame must be taken into account. One facing south, for example, would not be the best, as too much heat would only induce a weak and debilitated state. This could, of course, be remedied in a measure by carefully shading and ventilating, but the better plan by far is to locate the frame for the summer months in a north position.

In potting the plants for the last time an addition may be made to the afore-mentioned compost in the shape of old cow dung, or manure from an old mushroom bed. It will be an advantage if the bed of the frame, on which the *Primulas* stand, is covered with two or three inches of fine ashes, as these will contribute coolness to the roots by preventing undue evaporation. Space, too, must be left between the pots for growth. It is never wise policy to pack the plants together at the start, as

It is an easy matter, in handling them, to break the leaves, which not only causes disfigurement, but bleeding. There is such a thing as *individualizing* each plant, and so endeavour to have them robust.

STIMULANTS.—Many growers of plants for winter blooming attach great importance to stimulants, but these are of little use, and indeed are not required until *Primulas* have made most of the use of the constituents of the soil in which they were finally potted. Then, and not until, should they be administered. There are numerous excellent stimulants on the market to-day which feed as well as stimulate, but one ought not to lose sight of the common things like soot in an old state—a tonic to many plants, producing that deep green in the foliage which is the hall mark of good culture and perfect health. Over-stimulating is a mistake. It is easy to surfeit soft-wooded plants like *Primulas*.

HOUSING THE PLANTS.—One cannot with any degree of certainty fix upon a specific date when *Primulas* should be moved to the greenhouse. It depends on several things: the mildness of the autumn or otherwise, but care must be taken after the middle of September to cover the frames at night with mats should it be found necessary. It is hardly conceivable, however, after one has expended months of attention over the plants that any neglect can be permitted; rather house a week earlier than run any risk.

POSITION.—The place for *Primulas* in a greenhouse ought to be one where light can reach them easily, and where they will not be subject to "drips" from other plants, as if this is allowed it will be found that "damp collars" will ruin the best of them.

PROMISING TRUSSES.—Don't encourage any and every truss that appears: pinch out the weakliest, retaining only the robust and promising. *Primulas* flower for months, and if they come from the frame in a healthy condition they will be found a good investment. If some of the plants are more backward than others in showing buds so much longer will the display be. One need have no fear, as the blossoms will certainly come. It is a matter of selecting the fittest.

TEMPERATURE.—One pleasing feature about the culture of *Primulas* is that a temperature which meets the requirements of other winter flowering subjects: *Cinerarias*, *Cyclamens*, *Chrysanthemums*, &c., will suit. In fact if anyone can give them an equable, genial atmosphere in which to grow *Primulas* will bloom more or less from October to March.

W. LINDERS LEA.

Work among Sweet Peas.

By E. T. ELLIS, Weetwood, Ecclesall, Sheffield.

It may be that some of your readers have tried the new method of growing Sweet Peas—the Single Stem Method—for the first time this year. Perhaps a few notes on the management of these plants during the summer will be useful.

If you are growing the plants up bamboo canes vertically, only one or at the most two stems should be left. Those who grow the plants up bamboo or other poles at an angle of 45 degrees may leave

more than one or two stems on, and spread these out on to adjacent poles above or below the main stem. But I think the vertical system takes up least room and bids fair in our district to give some good results.

Thus you have to harden your heart a bit. The laterals and side shoots had better be removed at once, and as they appear, for if these are permitted to grow to the length of one inch, much less six, an equivalent amount of energy will be taken from the plants. So nip or cut them out at once as soon as they appear.

This operation does not include the ruthless removal of the chief flower buds, perhaps not half open. These should be left, and cut when the blooms are out; do not leave them to seed or you will soon play havoc with your ideas that the plants shall reach the top of the sticks. So cut the flowers liberally as soon as open, for you are then quite certain to get more.

Attention to the removal of laterals should be given at frequent intervals during the week. We amateur gardeners and smallholders have not time to give attention to the Sweet Peas everyday. I have my other plants to look to, and you have your fowls and other stock to look after as well. Still, very frequent examination is needed, and the laterals must be unmercifully cut away.

A word of care is now needed. These laterals all grow from a joint, and just above the leaves, or the leafy stem of a Sweet Pea plant. To go out with a knife and chop them off ruthlessly is a first-rate way to damage the plants for the whole season. You should look at your work and cut off the laterals carefully, not damaging the rest of the hulk of the peas. Cut off as close to the joint as you safely can, however, and cut clean, leaving no jagged stem or other traces of what you have done. Go carefully round your plants one by one on the days appointed, and be careful not to leave a single lateral, for it will soon grow and use up the strength conserved for the main stem. By the systematic removal of these side shoots, &c., with other care now to be described, some of our exhibition blooms, if not indeed many of them, may be obtained.

The systematic tying up of the Sweet Peas is an operation which cannot be neglected at this season without disastrous consequences if the plants are grown on the single stem principal. It will in many cases be found needful to tie up after every leaf joint. The tying up of the plants had most certainly better be done with due care, and, while firmness and security are essential, do not tie up too tight. Remember that the stems have yet to swell a good deal, so leave room. Keep the stems as straight as possible and tie in no leaves, flowers, or laterals.

Thus it will be seen that the tendrils of the Sweet Peas are not needful, and indeed if the plants are grown close to other plants, which they have to be in certain cases, the tendrils are not only unneeded but highly undesirable, as they are apt to stretch out and entwine themselves to other plants. The tendrils may, with due care, be removed, and removed without scruples, for no harm but good can result. Any little conservation of strength which we can afford the plants should be taken advantage of to the full, but take care to neither remove or in any way damage the leaves behind the tendrils.

Sweet Peas well repay watering and feeding, so some few remarks on these points may be of service. To syringe them with cool water right over their leaves and stems in the evening after a hot day is a way to really encourage them. But water at the root is wanted in dry weather. Watering should, of course, be done in the evening, and the soil stirred and hoed if it is not weed-free and in a loose condition. It is then better able to hold the water. Be liberal if you water at all, but let the water soak in as you proceed. Feed once or twice a week with liquid manure from horse droppings, or use a solution made by dissolving one of the many Standard Sweet Pea Fertilisers in water in the proportions furnished with the same. Alternate as usual one application of the liquid food with several of clear water on the intervening days.

The cutting of Sweet Peas for exhibition should be in the evening, or most preferably in the early morning. They should be kept cool and in water before the show and will then look fresh.

Propagating Perennials.

MANY perennials, such as *Doronicums*, *Lychnis*, *Sedum spectabile*, *Campanula glomerata*, *Stachys*, *Delphiniums*, *Erigerons*, *Phloxes*, *Pyrethrums*, &c., may be propagated in late May in the following manner, this way being the only way of increasing double flowers:—

Choose a piece of ground which is slightly shaded and fork it up lightly, throwing in old potting soil and a little sharp silver sand to the depth of three inches. Next get a small, low frame and white wash the glass to shade the sunlight further.

In May and June young basal shoots are thrown up from the root stocks of the plants named, and these should be cut off with a sharp knife below the soil, or above the soil if need be, but in this last the basal growths of *Doronicums*, &c., have little roots on them already if cut off in a proper manner.

Get as many shoots as required and, if they are true cuttings, prepare as you would a cutting, by slipping off just below a joint if possible.

Peg these true cuttings into your bed of soil in the frame quite firmly with a dibber, and one must be very careful not to hang them. If they have little roots of their own plants with a trowel and firm them well. Put them 3-6 inches apart.

The parent plants must have the soil drawn up a little, and they must be watered. Give the cuttings in your frame a good soaking with a fine-rosed can. Then put on the lights and keep closed for a few days, watering when needed and sprinkling overhead. Those that are not rooted will be the "shy ones," but even these will soon throw out roots under this treatment.

You will be able to see when they are rooted for they will begin to grow. When this happens gradually inure them to air and sunshine, but shade them from the hot midday summer sun for sometime yet.

If they grow very strongly (and strong growing should in every way be encouraged by frequent soil stirrings and by good supplies of water in the evenings), then it will be necessary to plant them out

in nursery borders 6-12 inches apart during the summer months. They should be planted carefully and watered well every evening some days after being replanted, and it is well to give a thorough watering the night before, and replant on the following evening. No check should then result. Keep the ground well hoed and stirred, and when established only water if the weather be really dry. They may then be planted in their permanent quarters in the autumn, or may remain in their nursing positions till next February or March, some slight protection being given them in cold districts.

Another way is to sow seeds of perennials in June or July, but this means of propagation is less satisfactory, a longer period elapsing before good plants are obtained. I recommend the above method with every confidence.

SPHENE.

Trees and Shrubs.

Rhododendron hippophoides.

This little known species is doing well at Glasnevin, where *Rhododendrons* are not easily grown owing to lime in the soil and exposure to wind. It is now about two feet high and well branched. The younger branchlets are slender and furnished with yellowish scales; the thickish leaves have short stalks and are dark green and scaly on the upper surface; pale greenish yellow and densely scaly below; rather over an inch long and about a third as wide. The blue flowers are borne in terminal heads of six to seven, and as they are freely produced and unusual in colour the effect is quite pretty.

The species was discovered by Mr. Kingdon Ward, who sent home seeds to Mr. A. K. Bulley from China, and a little later by Mr. Geo. Forrest, who also found the plant in still later journeyings. In all cases the plants were growing at altitudes above 10,000 feet. This species is apparently quite hardy, and will be useful on large rock gardens and for beds.

Rhododendron ravum.

INTRODUCED from Yunnan by Mr. Geo. Forrest, this is a stronger shrub than *R. hippophoides*, with stouter branches and fewer of them. The leaves, too, are larger, being up to two inches long and three quarters of an inch wide, rounded at the apex with a short, blunt mucro, and tapered from the middle to the stalk; dark green and scaly above, paler and scaly below. The flowers are produced in clusters of four to five in the axils of the terminal leaves, and so close together as to form a head of six or seven clusters. The flowers are rosy lilac in colour, nearly like those of *R. rubiginosum* but without the spots and with shorter stalks. The plant figured herewith was presented to the Glasnevin collection by the Royal Botanic Gardens, Edinburgh, as a small seedling in 1917.

A notable difference between this species and *R. hippophoides* lies in the power of the flowers to resist frost. Several times while both were in flower in mid April from 4 degrees to 8 degrees of frost occurred, utterly destroying the flowers of *R. ravum*, while those of *R. hippophoides* were untouched.

J. W. B.

Notes from Rostrevor.

THE unusually mild winter induced some of the plants here to push early, and the sudden cold snap of last week produced the inevitable result of damaging the young growth on a few of them, but without, I think, doing any really serious injury. Among the sufferers in this respect are *R. parviflorum*, *R. phanum*, and *Hydrangea Sargentiana*. The temperature did not fall below 26 degrees, and then for three nights only, but it was sufficient to spoil a lot of interesting flower. About one hundred well developed trusses on *R. cinnamomum* were all destroyed

especially *C. reticulata*, did not seem to mind the cold. The *Acacias* that are here also continued to flower, notably *A. melanocorylon*, which seems to me to be perhaps the hardiest of that very interesting genus. But many of the little pale blue bells of *Edaphothamnus cyanocarpus* quickly perished under the influence of the frost, though the tender young growth is uninjured. Three half-hardy plants which I have not found it easy to acclimatize have hitherto survived this winter without any hurt: *Brachyglottis repanda*, a beautiful foliage shrub; *Rhabdanthus Solandri*, an interesting little Gesneriad from New Zealand, and *Bourkera triphylla*, from



RHODODENDRON RAVUM.

and look as if they were made of yellow brown paper, and the same happened to those on *R. argenteum (grande)*; while those on *R. lochnium*, and on a small specimen of *R. virgatum*, soon shrivelled up. About a month ago a frost of eight degrees lasting one night treated some first trusses of *R. sutchuense* in a similar way. Flowers on *R. Augustinii*, on *R. amicum* (which more or less had been blooming for the past few months), and on *R. Shilsoni*, were damaged; fortunately, however, the parents of the last named, viz., *R. Thomsoni* and *R. barbatum* had not opened. On the other *R. hippophoides*, blue mauve, a fine bush of *R. spinuliferum*, covered with numerous curiously shaped red flower, and the pure white *R. ledifolium* *flore pleno*, that has been also blooming irregularly for some considerable time, escaped altogether and are untouched. *Camellia japonica*, and more

South Africa, with white *Calceolaria*-like inflorescence.

Obituary.

R. ALLEN ROLFE, A.L.S., V.M.H.

It is with great regret we have to record the death of Robert Allen Rolfe, but lately retired from the staff of the Herbarium at Kew. Over 40 years ago Mr. Rolfe entered the Royal Botanic Gardens as a young gardener and soon after joined the Herbarium staff, having passed first in a competitive Civil Service examination. Mr. Rolfe early evinced a keen interest in Orchids, and his best known work has been done in connection with the Orchidæ. Some years ago a sketch of Mr. Rolfe's career appeared in the Journal of the Kew Guild, and from it we take the following:—"His name is chiefly associated with his extensive labours among the

Orchidæ, his more important contributions being 'Bigeneric Orchid Hybrids' (1887), 'A Morphological and Systematic Review of the Apostasiæ' (1889), 'Sexual forms of Catasetum' (1890), in which the confusion as to three sexes, into which Darwin had fallen, was cleared up. . . . Writing in *Nature* in December, 1898, Mr. C. C. Hurst . . . says:—"Mr. R. A. Rolfe has done yeoman service in reducing the chaos of natural hybrid Orchids to something like order. . . . His name figures largely in the 'Gardener's Chronicle,' 'Flora of Tropical Africa,' 'The Index Floræ Sinensis,' 'The Flora Capensis,' 'The Kew Bulletin,' &c.

war, compared with the rest of the country, was very largely attained by the gentlemen who formed the Committee of the Belfast Garden Plots Association. When this Association was first inaugurated each member of the Committee supervised a group of allotments, and made personal visits during the evening when the ploholders were at work to encourage the efforts of the men and forward generally the development of the plots. This had much influence on the success, and made all the difference between working in a haphazard manner, all the ploholders combining to make their own group of allotments superior to any group in the city. A



RHODODENDRON HIPPOLEOIDES.

. . . " Mr. Rolfe adds yet another name to the long roll of government botanists who have passed to the great majority but, as with others, his work will live to keep his memory green for many years to come.

Allotments.

WITHIN the last few years a good deal has been written relating to the organization of allotments. Elaborate rules have been devised as a model for local societies. Plans of model allotments are in force, and suggestions and rules for holding competitions and shows. We have referred to these considerations at various times, and especially the advantages of the latter when properly conducted. But there is at least another element, and that is the personal one. The early success and the undoubted superiority of the allotments in Belfast before the

silver cup was awarded to the best group, which was held by a ploholder elected among the winning group. All the members of the Committee were business gentlemen with little leisure, but this was cheerfully sacrificed to further their ideals, which they held as members of the Christian Civic Union, and which was first responsible for forming allotments on anything like an organized scale in Ireland. The system and the rules of the Association were largely followed, especially in the North of Ireland, and we venture to say with much success.

The upkeep of allotments in these days is a serious item of expenditure. The expenses with regard to repairing fences, and other necessary repairs, is considerable. This is especially so in towns where they have to be kept securely fenced. In the country districts thorn hedges serve the purpose, but these

are absent in the towns, and the artificial fences erected receive a good deal of rough usage, chiefly from outsiders. If water is not laid on the allotments, the question of supply is sure to arise. This again is expensive. In any case water is usually only valuable to those in the immediate vicinity of the supply, and while, of course, there are occasions when a convenient supply of water is very helpful, it is not really essential.

GENERAL WORK.—Seeds of Lettuce may be sown for succession; sown so that transplanting may be avoided in hot weather. The flower stalks should be removed from Rhubarb. It is wise not to pull leaves from crowns planted this year. Hoe between the rows of Carrots and draw a little soil to the roots, treading it hard. This will help to keep the fly away. Thinning of the crop should be done in showery weather and gradually until it is seen what damage has been done by the fly. The thinning out of most other crops should be attended to, especially seedlings which are not afterwards transplanted. With all plants in fact insufficient thinning of the plants in the early stages of growth should be avoided, as it results in weak and poorly grown specimens.

BEEF.—The main crop is usually sown the end of April or early in May. The Globe Beet may be twelve inches apart in the rows, but the larger growing kinds may be fifteen inches. The seeds sometimes require soaking for a few hours before sowing. This crop is very easily grown on good loamy soils. Fresh manure dug in the land before sowing has a tendency to make the roots large and coarse.

VEGETABLE MARROW.—At the end of the month it should be safe to plant out Marrows. A bed could be made up of turf edgings and manure. A good sunny position suits these plants, where they are protected from winds.

GARDEN SWEDES are universally grown on plots, and in small gardens. On sandy soils a fair amount of manure should be dug in to nourish the plants and give them a good start in the seedling stage. Shallow drills should be drawn about fifteen inches apart and the seeds sown thinly. The young plants often suffer from insect attacks, and thinning out may be delayed until the plants grow away from it. If the attack is serious dusting with powdered lime is helpful, but a heavy shower of rain usually gives the remedy.

KIDNEY BEANS may be sown from the end of April until the middle of June. The distance between the rows should be from one and a half to two feet. If the seeds are sown a few inches apart they may be afterwards thinned out to about nine inches apart. Dwarf Beans pay for a fair amount of manure. On heavy soils two inches is deep enough to sow the seeds, for if the ground should be cold and wet the seeds are almost certain to decay.

SCARLET RUNNER BEANS should be sown about the middle of the month in well manured ground. They are also quite useful for sowing in a flower garden to cover wooden fences or trellis work. The seeds may be sown closer together, but the plants should ultimately stand about eight or ten inches apart. Sow the seeds about three inches deep. These Beans may be grown also without stakes by keeping the tips of the shoots picked out. We have adopted a permanent method of staking, which is very satisfactory, and once fixed requires no further attention. Four disused gas pipes, eight feet long,

are driven into the ground across the plot. Galvanized wire is then stretched across the plot and attached to the gas pipes at the top and about one foot from the surface of the ground. Bamboo canes eight feet long are pushed into the ground about one foot apart and fastened with tar-cord to the wire. The Beans twine around the canes, and no ordinary gale breaks them down. G. H. O.

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to H. B. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

THE KITCHEN GARDEN.

ASPARAGUS.—Keep the Asparagus beds thoroughly clean, and cut for use as it becomes fit. Take care not to damage the crowns when using the knife. Give a small dressing of a quick-acting manure every 14 days during the bearing period, and in light soils during dry spells. See that the plants do not suffer from drought. Young seedlings will require thinning.

ARTICHOKES.—Draw the soil to the stems of Jerusalem Artichokes for support before they become too tall. Should room be limited pinch out the tops when they reach 3 feet 6 inches or 4 feet high.

BROAD BEANS.—Make a final sowing of Broad Beans, Green Windsor type, on a north border if available; pinch the tops out of the earliest sowings as soon as they have set four trusses of bloom. Watch and destroy all attacks of black fly.

RENNER AND DWARF BEANS.—Sowings may now be made in the open and on well trenched ground. Allow plenty of space for runners, and towards the end of the month plant out those raised in pots or boxes to forward the crop. Place the stalks in position and afford protection from harsh weather.

PEAS.—Stake all Peas as they show through the soil; use the trimmings of the longer stakes for the first time. Continue to make weekly sowings of Main Crop Marrowfat, allowing plenty of room. Early varieties on south borders will soon be fit. It is a good plan to mulch with long litter immediately the final stakes are in position. Sow Spinach between the rows sufficient for the demand.

POTATOES.—Watch the earliest Potatoes that are well through the soil, and cover well if it looks at all like frost. The variety *New Success* was through the soil here on April 2nd, exactly four weeks from planting. This variety also turned out well grown in the forcing houses. All planting should be finished as quickly as possible in good weather.

CARROTS.—Keep the hoe busy through the Carrots and dust well with soot. Where the fly proves troublesome do not thin, and spray with Quassia Extract. Make another sowing of a stump-rooted variety as a succession to the earlier sowing.

BEEF.—Sow the main crop Beet when the weather is suitable. Keep the hoe busy between the rows of Globe varieties that are up.

CABBAGE.—Plant out all Cabbage raised in boxes, also Cauliflower, early Broccoli, &c. When planting

BRUSSELS SPROUTS.—allow at least 2 feet 6 inches between the plants, and plant with a good ball. Give a slight dressing of Nitrate of Soda to give them a good start.

TURNIPS.—Sow a quick growing Turnip on north borders, and afford artificial shading if the flea is troublesome. Keep the ground well dusted with soot.

MARROWS.—Prepare a number of stations for Marrows six feet apart. Watch for slugs and see that they are plentifully supplied with water.

TOMATOES.—Make another sowing for autumn fruiting. Plant out prepared plants when all danger of frost is over. Do not use much manure for the crop.

ONIONS.—Onions are growing away well. Keep the hoe plied between the rows, and give a dressing of artificial manure. Thin the main crops if too thick.

LETTUCE.—Make a sowing every ten days throughout the season, growing quickly, and keep well watered.

LEeks.—The earliest Leeks are ready for their final quarters. Treat most liberally and place paper collars in positions as soon as planted.

CELERY.—Get the main crop trenches ready and plant out early raised plants. Prick out last supplies and see that they do not suffer from drought at any time.

RADISHES AND SALADS.—Sow every fortnight, and grow quick, watering at night.

HARDY FRUIT GARDEN.

STRAWBERRIES.—Give the Strawberry beds a thorough hoeing and cleaning, and if any artificial manure is to be given to assist the crop this may be applied before placing the straw in position for the fruit to rest on; whenever possible use clean straw for this purpose. If water is required give a thorough soaking of clear water. The earlier the nets are in position the better; this will afford a slight protection. Where extra fine fruits are required thin down to about ten or twelve on the young plants; this will also hasten ripening by a few days. Forced plants have carried extra well shaped fruits of Royal Sovereign this season.

PEACHES AND NECTARINES.—Continue to disbud these trees till the requisite number of shoots are left for next season's crop. Where the Leaf Blister Fungus (*Eoasacus deformans*) is prevalent pick off and burn the infected parts and spray twice a week with Sulphide of Potassium ($\frac{1}{2}$ oz. dissolved in one gallon of soft warm water). Syringe the trees early enough for them to dry before sunset. Make sure no tree suffers from want of water.

GOOSEBERRY AND CURRANTS.—Keep a sharp look out for all insect pests. Where young trees from the cutting beds are being trained into different shapes—such as cordons, standards, fans, bush—a start must be made at once pinching out all growth not required. Keep the leading tips tied in and see that no suckers are allowed to get hold. Use plenty of lime under all young Gooseberries.

CHERRIES.—Watch the young shoots of Cherries, which are now growing rapidly. As soon as an attack of Aphis is noticed spray the whole trees thoroughly with Quassia Extract, using in a luke-warm condition, and spray two or three days following until the pest is totally destroyed. See that the trees are kept supplied with water.

RASPBERRIES.—Give the Raspberry plantations a good mulching, and a good soaking of liquid manure water will greatly assist the swelling of the berries. Keep all suckers cut away that appear away from the rows and thin down all weak canes in the rows leaving sufficient strong, well-placed canes for next season's fruiting.

BLACK CURRANTS.—The Black Currant bushes are very promising this season and withstanding attacks of their various enemies much better than usual. Endeavour to get strong basal shoots for next season crops, and keep the ground thoroughly clean.

APPLES AND PEARS.—Where the fruit has set much too thick a portion should be removed, all ill-shaped and badly placed specimens first. Be on the alert for American Blight, both above and below ground; in the case of the latter inject Bisulphide of Carbon about two feet from the stem. This is also a good remedy for destroying ants in the houses, which are very troublesome at times. Keep the hoe busy throughout all fruit plantations, and make sure no tree is suffering in any way.

FLOWER GARDEN AND PLEASURE GROUNDS.

SUMMER BEDDING.—Push forward the work of planting all Violas, Pentstemons, Antirrhinums, Stocks, Asters, Calceolarias and Marguerites as the ground becomes vacant and ready for planting; this will greatly help to get the bedding finished early next month. Thoroughly harden off the more tender plants, having protection ready in case of frost. Endeavour to get sturdy growth on the tuberous bedding Begonias.

ANNUALS.—Make good sowings of Mignonette, Clarkias, Candytufts, Lavateras, Godetias, and any favourite annuals in the vacant places in the mixed borders. Sow thinly and cover very lightly.

HERBACEOUS BORDERS.—Stake the tall, strong growing plants early in the season. Asters, Phlox, Heleniums, and Rudbeckias will require a certain amount of thinning to obtain the best results.

ROSES.—Roses of all types are growing rapidly. Plants growing over pergolas, poles, walls or hedges will require constant watching for aphids, &c., and also to see that all ties are secure. Froth deposited by the froghopper should be removed with the insect. Spray with Quassia Extract according to directions for all attacks of greenfly.

LILIES. *L. auratum* and *L. speciosum*, growing in pots for outdoor planting, should be placed in their permanent places as soon as possible. Place a neat stake to each shoot, and keep a sharp look out for aphids in the tips and slugs at the stem.

VIOLETS.—Keep the hoe busy between the rows of Sweet Violets, and on hot days spray with clear soot water to keep away red spider.

GERBERA JAMESONII.—Where one has a stock of this beautiful Gerbera they may be safely planted on a warm border. I have had good luck with them close to the south wall kept well supplied with water.

HOLLIES.—Any specimen Hollies may be transplanted at the present time. Shade from cold winds or hot sun, spraying with clear water and give a mulching to keep roots moist.

NYMPHEAS.—Water Lilies will require attention during the next few weeks. When planting use baskets filled with good loam and cow manure, and plant in shallow and not too swift water.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

ASPARAGUS.—Established beds will be bearing freely now and to encourage strong growth give light dressings of salt and liquid manure alternately; keep the beds free of weeds.

BEETROOT.—The main crop may be sown about the middle of the month. Well worked ground manured for a previous crop should be selected, otherwise coarse and forked roots may be produced quite unfit for table use. Sow in drills fifteen inches apart, placing a few seeds at intervals of 8 inches; thin out when large enough.

BROCCOLI.—Early in the month sow the late varieties for cutting in April, May and June next year.

A further sowing of Cabbage and Savoy made now will come in useful late in the season.

CARROTS.—The main crop, if not sown last month, should be got in without delay on ground as advised for Beetroot.

CELERY.—Prepare shallow trenches during the month ready for the plants as they become fit to put out. Work in a good share of well rotted manure, allowing about four inches of soil on top for planting. Spray in the evening of bright days to encourage growth.

CUCUMBERS.—Attend to the thinning and pinching of plants carrying crops; top dress the mounds with good loam when the roots come to the surface, and keep growing in a warm, moist temperature. The fruits should be cut before they begin to mature seeds, as this would soon exhaust the plants.

FRENCH BEANS.—Make another sowing about the middle of the month, and at intervals of a fortnight, to maintain an unbroken supply.

ONIONS.—Those that were transplanted from boxes may be assisted by spraying overhead in the evenings of bright, warm days; keep the hoe working along the drills. Outdoor sowings should be thinned when a few inches high, and dusted with soot when the leaves are damp.

PEAS.—Main and late crops should be got in at intervals of ten days. If a spell of dry weather sets in apply a mulch of decayed manure or cut grass along each side of the drills after soaking with weak liquid manure. Pinch the points of the earlier plants to induce them to fill the pods; a week or so may thus be gained in picking.

POTATOES.—Stir the soil well between the lines, drawing some up to the plants when well above ground. Early varieties should have the final moulding up.

SALADS.—Frequent sowing of Lettuce, Radish, Mustard and Cress is required during the summer to keep up an unbroken supply. In hot, dry weather all these soon run to seed, and to partly avoid this sow on a cool, shady border.

TOMATOES.—Plants intended for putting outside should be potted on in six inch pots and grown on till the first truss of fruits is set; remove all side shoots keeping to a single stem. Gradually harden off, finally planting out in the warmest part of the garden.

VEGETABLE MARROWS.—Make provision for plant-

ing these out towards the end of the month, giving the protection of a frame or handlight to begin with. They are useful for covering rubbish heaps or unsightly corners, provided sufficient sunlight reaches them. When well established pinch out the points of the shoots to cause bushy growth.

THE FRUIT GARDEN.

Almost all fruit trees and bushes present a very promising appearance; therefore, attend to all work necessary to ensure a bumper crop this year. Insect pests invariably multiply at a rapid rate at this season, and unless kept in check do much damage. Cherries and Plums growing on walls soon get infested with black and greenfly, and should be well syringed with a good insecticide on their first appearance. Watering may be a necessity and should not be neglected or results will be unsatisfactory.

Disbudding of Cherries, Peaches and Nectarines should be taken in hand as soon as the fruits are well set. Pinch the shoots of Pears and Plums about the fourth leaf from the base to encourage the formation of fruiting spurs; shoots meant for extension should be allowed to grow on.

RASPBERRIES.—Remove all surplus suckers, retaining the strongest and well placed for tying up to the wires; more light and air will be allowed to reach the canes, which will be of great benefit to the crop. Loganberries may be treated in much the same way, tying in the young vines loosely as they extend, but in such a way as to expose the trusses of fruit.

STRAWBERRIES.—As soon as the first fruits are formed get the nets placed over them as a protection against birds.

I have seen it suggested to place vessels of water about the garden as it is moisture the birds are in search of, but there seems to be more attraction in a big ripe Strawberry.

A most important operation amongst fruit trees during the next few months is a regular use of the hoe; the little time spent on this work is well repaid, and saves a lot of watering should dry weather set in.

Look over trees that were grafted, and, if the ties are too tight loosen them, re-tying if necessary.

THE PLEASURE GROUNDS.

The next few weeks will be a busy time in the flower garden; all preparations for summer bedding must be pushed on. Many of the spring flowering plants are nearly over and should be lifted. Polyanthus and Primroses may be split up and transplanted on a shady border for the summer, to make good clumps for filling the beds later.

Bulbs that were planted through the beds can be lifted and heeled in until the foliage dies down, when they should be lifted and ripened in the sun. If the beds require manure let it be well rotted stable litter, or failing a supply of this, decayed leaf-soil and bone meal will give good results.

Bedding out of the hardier stock may safely be started towards the end of the month, following on with the more tender subjects, such as Begonias, Geraniums and Heliotropes. Give them a good watering in the evening if the weather is dry and check evaporation; run the hoe through the beds the following day. Stake and tie up any plants that require it, or in many cases work would be wasted.

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1921

EDITOR—J. W. BESANT

Populus Generosa.

By PROF. A. HENRY.

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MOST of the vigorous poplars grown for timber in Europe are hybrid trees of accidental origin, the result of seed produced by the fertilization of one species by the stray pollen of another species wafted by the wind. An account of these, with illustrations, appeared in this Journal, April, 1918, p. 49.

Populus generosa differs in being an artificial hybrid, produced at Kew in March, 1912, when the pistillate flowers of a black poplar, *Populus angulata*, were dusted with the pollen of a Balsam poplar, *Populus trichocarpa*. From the few seeds, which ripened towards the end of June and were sown immediately, four seedlings were raised at Cambridge, which attained about two inches in height by the end of October, 1912. Starting next season as tiny plants in good soil at Glasnevin, they grew with amazing vigour and by the end of 1914 had attained $7\frac{1}{2}$ to 10 feet in height. (See *Journal Dept. Agric., Ireland*, October, 1914, page 14, figs. 6 and 7.) The finest of the four original trees was planted out at Avondale and promised to become a great size; but it was mysteriously cut down last winter. Another, sent to Mr. Hillier, Nurseryman, Winchester, who propagated extensively from it, is now planted out at Woburn. Another is in a private garden at Ranelagh. The fourth, now figured, is growing in the Glasnevin Botanic Gardens and measures 27 feet in height, and 13 inches in girth at five feet above the ground. This is a female tree, which produced flowers, few in number, for the first time in the spring of 1919. It flowered again in April of the present year, the abundant catkins towards the top of the tree making a fine show, as may be judged from the photograph here reproduced, of a part of one of the flowering branches.

The cross between *Populus angulata* and *Populus trichocarpa* was repeated at Kew in April, 1914; and from the seeds which ripened in June of that year some trees of *Populus generosa* (*secunda*) were raised, and three of these are now making remarkable growth in Kew Gardens. Two planted out in the Poplar Collection, Nos. 156 and 157, are alike in measurements, with a height last March of 29 feet and a girth of 19 inches. This is the result of practically six years' growth. The third tree on the lawn near the Palm House is somewhat less in size. Tree No. 157 produced this spring a few male catkins, which fell off on 30th and 31st March.

The botanical characters of *Populus generosa* were

given, as regards the twigs and foliage, in the original description of the hybrid, which was published in *Gardeners' Chronicle*, 17th October, 1914, p. 257, figs. 102, 103, and need not be repeated here. I may now add a few technical notes on the flowers: Catkins of both sexes pendulous with numerous flowers on a glabrous axis; pedicels short, glabrous; scales fugacious, fan-shaped, with margin variously lobed and divided into long irregular slender filamentous segments. Male catkins 4 to 5 inches long; anthers 50 to 60, reddish, with long white filaments; disc glabrous, with a few indistinct teeth on the margin. Female catkins, 5 to 6 inches long; disc a shallow glabrous cup, with crenate margin; ovary sessile, glabrous, usually with three placentae bearing numerous ovules; stigmas usually three, broad and variously lobed. Rarely only two placentae and two stigmas are present. The flowers differ from *P. angulata* in the shape of the scale, which has a dentate margin in that species. They differ more, however, from *P. trichocarpa*, in which the ovary and the axis of the catkin are tomentose.

Populus generosa is worth growing for ornament, as it bears very large leaves, sometimes 9 to 10 inches across, which turn a brilliant yellow in autumn. It grows fast in youth, as the measurements already given indicate; and at Oxford cuttings sent from Dublin surpassed in vigour in the second year the well-known hybrids *Populus regenerata*, *Populus Eugenei*, and *Populus robusta*. (See *Quarterly Journal of Forestry*, April, 1918, page 135.) Whether it will continue to grow at the same rate and be of use for producing timber quickly, is a matter of some doubt.

In the Alpine House, Glasnevin.

Primula fasciculata.—This new species from China, seed of which was received from Edinburgh Botanic Gardens, has sorrel-like leaves of a bright green colour. The flowers are rose pink with a yellow eye; those at present open are all strobil-eyed. The plant stands $3\frac{1}{2}$ inches high, and if it proves hardy will be a delightful addition to rock gardens.

Primula redolens, also from China; the leaves and habit are somewhat like *P. Forrestii*, the same rough netting on the leaves. The stems are moderate, 6 to 8 inches; three to four flowers in a head; the colour palest pink with a pale orange eye. They are like *P. obconica* in shape. The plant is well named; its scent is very sweet, like cowslips.

W. P. M.

Notes from Rostrevor.

HIBBERTIA READII, believed to come from Australia, is a little shrub with Heath-like leaves and of somewhat prostrate habit, which in spring is smothered



Photo by]

[Miss E. F. Miller.

POPULUS GENEROSA IN THE ARBORETUM, GLASNEVIN.

in masses of small, bright yellow flowers. It has lived here at the foot of a wall for some twelve years unhurt by weather. *Prostanthera violacea*, also from Australia, evergreen scented foliage, is now display-

ing pretty purple blossoms and is a desirable upright species for a favoured corner. The plant sometimes seen in green-houses under the name of *Genista elegans* is, I think, more properly *Cytisus fragrans elegans*, it has been outside here for many years against a wall, where it fills a space twelve feet broad and as much high, standing out nearly nine feet from the wall and overtopping it. It is quite beautiful in spring, with grey-green trefoil leaves covered with minute silky white hairs, and decked with very numerous sweet smelling bunches of golden, pea-like flowers. Among the most conspicuous shrubs out at this season is the well known *Embothrium coccineum*; one specimen received in 1892 has reached to tree-like dimensions; another raised from seed is tinged with vivid orange instead of the usual scarlet. Two good Veronicas, which seem to be well suited to rock gardens, deserve a passing notice: *V. cinerea*, a trailing carpeting species with light grey foliage and blue flowers; *V. Fairfieldii*, possibly a hybrid between *V. lacaudiana* and *V. hulkeana*, with leaf and habit resembling the former and inflorescence similar to the latter. At first sight *Corokia cotoneaster* might be mistaken for *Pittosporum rigidum*, but they now look very different, the *Corokia* being covered with masses of yellow star-like bloom, the *Pittosporum* bearing minute dark purple flowerlets studded singly along the branchlets. *Pittosporum eugenoides* is a large shrub, almost a tree, desirable for its dark, olive-coloured, glistening foliage and for its scented yellow flower; the variegated form is equally attractive. *R. Griffithianum* is now magnificent, with large, white, trumpet-shaped bells, like great Lilies, in loose trusses; *R. Lindleyi*, sweet scented, white, with a very distinct red-brown calyx; *R. oreotrophes*, a recent introduction from the Far East, delicate pale rose leaves glaucous; *R. Keysii*, unlike the rest of the genus with red and yellow tube-shaped flowers. *R. sphaeranthum*, from Yunnan, is a dwarf species with aromatic leaves and small round, rosy-pink trusses; *R. verruculosum*, from West Szechuan, and the still more dwarf *R. fastigiatum* from Yunnan, both blue-purple, are floriferous and charming at this time. These three have been lately imported to this country. *R. serpyllifolium*, from Japan, is another dwarf suited to rock work, pink bells, tiny leaves, forming a compact sturdy little bush, 2 feet high, and more through.

Iris sasiiana, the well known "Mourning Iris," and *I. bracteata*, light buff, netted brown, are now in bloom; also their allies, *Homeria collina* and *Morea spathacea*, introduced by Mr. Elwes, which seems superior and somewhat different to the plant known in some gardens as *Diets Huttoni* (given in

* Two quite distinct plants have been called *Morea spathacea* in gardens. The smaller of these, with narrow yellow segments striped with violet, is *Diets Huttoni*, Hook. f. figured in Bot. Mag. t. 6174, and is now properly called *Morea Huttoni*, C. H. Wright. The other species, alluded to above, with broad, clear yellow segments, marked with a pale buff blotch on their claws, is *Morea cuthaceae*, Ker, and a very much finer garden plant.—Ed., I. G.

the Kew Hand List as a synonym for *Moraea spatulacea*). Although *Tulipa clusiana* and *T. persica* differ from their congeners by not having the same gaudy appearance usually associated with Tulips, they are specially well deserving of a place in the garden wherever they will grow; the last-named plant has no cup-shaped flower, but it expands its chrome yellow petals to the sun well above the foliage. Many of the Primulas are also out, and perhaps one of the best is *P. chionantha*, with pale green leaves and pure white flowers. Nevertheless, our ordinary native *Anemone nemorosa* flore pleno is hard to beat when it is established in the grass; it seems to grow far more densely together in clumps than the type, and at a distance these clumps look like patches of snow; when examined more closely there are few things in nature to surpass it in real beauty.

J. R. of B.

Tree and Shrub Notes.

MAY usually brings a wealth of flower and leaf, and this year is no exception. After a rather harsh and disastrous April, in which very many flowers and young growths were ruined, copious rains in early May, followed by warmer conditions towards the middle of the month, soon worked wonders. In a few days the garden was transformed into a bower of greenery.

Choisya ternata, the so called Mexican Orange, evergreen and untouched by frost, burst into flower by the middle of the month, the clusters of pure white, faintly Hawthorn-scented flowers well displayed against the ternate glistening green leaves.

Pyrus Sargentii, with pink buds, in clusters of seven and nine on short spurs all along the branches, gives promise of being a useful and ornamental small tree. The expanded flowers are pure white and very effective in their profusion when suitably placed among other shrubs and trees. Opening just when *P. floribunda* is going over *Pyrus Sargentii* is a decided acquisition; a native of Japan, where it was discovered by Professor Sargent.

Cotoneaster nitens, a Chinese plant, continues to impress one with its neat and cheerful appearance. Although lacking the finer flowers of some other species, and also suffering eclipse in autumn, when the black fruits are dimmed to obscurity by the more brilliant berries of *frigidula*, *Franchetii*, *applanata*, &c., yet now when full of tiny pink buds among the shining leaves it calls for more than a passing glance.

Cotoneaster multiflora, as a small standard with 3-4 feet of clean stem and the slender, weeping branches reaching downwards to the soil, is a rare picture when covered like a Thorn with its corymbs of white flowers. This is a shrub which can be heartily recommended to those who want neat yet graceful early flowering subjects not requiring too much space. It can be grown as a bush or trained to a single stem.

Cotoneaster multiflora calocarpa differs considerably from the type. The habit is stiffer and more erect, the branches stouter and the flowers, at least in young specimens not so freely produced: but in autumn the fruits are larger, brighter in colour and more ornamental.

Viburnum tomentosum plicatum, an old favourite, is nevertheless still without a rival for flowers. Just now, in the middle of May, the round, ball-like heads of sterile flowers are changing from green to white, and for the next few weeks will be one of the attractions of the garden.

Viburnum macrocephalum, less common and less hardy, is in the same stage, but the "heads" are



Photo by]

[Miss E. V. Miller.

BRANCH SHOWING CATKINS OF *POPULUS* GENEROSA.

twice the size or more; a good deal of shelter is necessary for this species, except in very mild districts, hence it is not so useful for general planting. The real lover of plants, however, who does not

shake all on "effect" will usually contrive to find a suitable place for a good plant.

Tricuspidata lanceolata at the time of writing is well supplied with its curious pendent flowers, just in process of turning red but not yet at more than half their ultimate size. This is a choice plant now well known in collections of plants, and fairly hardy if protected from cold winds. Where it fails in the open it should certainly be tried on a wall facing west.

Ceanothus rigidus and the Warley form both flowered grandly in an open shrubbery all through April and into May. They are now over and the flowering shoots shortened back to keep the plants from getting too leggy. Planted in a collection of *Ceanothus* these two have proved as hardy as any, and more so than several other species.

Ceanothus thyrsiflorus, and the paler variety *griseus* are now following in succession, and have for company *C. Russellianus*, a vigorous, densely-branched bush of garden origin, bearing abundant short fascicles of dark blue flowers, and the better known *C. Veitchianus*, always a delightful shrub, either as a bush in the open or as a wall shrub, with flowers of a light shade of blue.

Cercocarpus parvifolius is an interesting shrub of the Rose family. An evergreen with obovate, very distinctly nerved leaves, it has no merit as an ornamental flowering shrub, yet now, with many corymbs of small, greenish-yellow flowers, chiefly composed of a woolly calyx, numerous stamens, and a protruding style, it certainly adds to the interest of a shrubbery.

Pittosporum tenuifolium, near by, is a handsome evergreen with ornamental leaves, and now carrying an enormous crop of chocolate-brown flowers.

Rhododendrons.

Rhododendron callimorphum is as yet little known in gardens, but will be sought after in the near future. It is inclined to suffer with other early flowering species from spring frosts. The stalked, oval leaves are glaucous below and dark green above. The bell-shaped flowers, produced in loose trusses of about six flowers each, and deep pink in the bud stage, the expanded flowers fading to a fine rose pink. Of dwarf habit, making short annual growths, it is a useful species for a restricted space, such as about a rock garden or the edge of a bed devoted to other Rhododendrons and plants requiring similar conditions. The species was illustrated in *Irish Gardening* of February, 1920, together with a descriptive note by Mr. Armytage Moore.

Rhododendron Loderi Patience is one of a number distributed by the late Sir Edward Loder. They are among the most magnificent of all Rhododendrons, with trusses of 7-8 flowers, each flower six inches or more across. In the variety under notice the buds are pink, the expanded flowers almost pure white with just a suspicion of pink at the rim of the corolla.

R. Loderi Pretty Polly, described and figured in this *Journal* in July, 1919, has more pink in the open flower, and is just in bud now in the middle of May, while *Patience* is full out and some flowers falling.

R. Searside is also in full flower now. The shortly stalked leaves are tapered to both ends and are scaly below. The flowers are rosy lilac, the upper segment thickly spotted with greenish brown spots. A useful if not brilliant species, apparently quite hardy.

J. W. B.

Rock Plants.

HABERLEA RHODOPENSIS is one of the indispensables of every rock garden which can show a shady nook and a pocket of moist soil. Given a northern aspect and a more or less vertical crevice, so that the leaves will not be resting on the bare soil, there is every hope of *Haberlea* flourishing. In addition, it is quite possible that a moist atmosphere is helpful, so, where any difficulty is experienced, it might be advisable to form a rock pool or moist bog bed below where the *Haberlea* is planted, to keep the air in the vicinity cool and moist. The ordinary species is *H. rhodopensis*, which forms rosettes of dark green, hairy leaves with toothed margins and, pushing up between the leaves in May, come the flower scapes carrying several lovely tubular flowers, lilac or lavender with yellow throat, providing a rare feast of beauty when a good colony of plants is flowering freely. Seedlings and collected plants vary in form of leaf and size of flower. The finest form, perhaps, is *H. Ferdinandi-Coburgi*, with broader, more fleshy leaves and larger flowers, the mouth of the tube being wider. *H. rhodopensis virginialis* is a pure white variety of considerable charm, but the flowers are smaller, in the writer's opinion, it is certainly not superior to the type.

Helichrysum bellidifolius is a New Zealander and likes a sunny position in well drained soil. It forms many long shoots clothed with small leaves, dark green above and woolly below, and from early summer onwards bears numerous white flowers of fine effect.

H. frigidum is a tiny gem from Corsica and is frankly not hardy. The short shoots are densely furnished with tiny grey leaves, and in summer it bears pure white flowers, when it is a truly pretty plant. In the moraine it grows well in summer but languishes in spite of covering during winter, so it is not to be generally recommended.

Helonias bullata is a plant for the small bog or stream side. It forms a rosette of fleshy green leaves, and from among them it produces a spike some eighteen inches to two feet high, at the top of which a dense mass of pink flowers unfolds. A group of several plants is always an object of admiration.

Heucheras, now so popular in the herbaceous border, are, in the garden varieties, rather too robust for all but the largest rock gardens. Nevertheless *Heuchera sanguinea*, when it can be obtained true or not too far removed from the type, is quite a good rock plant, producing a rare bit of colour. Such varieties as *H. sanguinea "Sanglant"* and *H. sanguinea "Walker's Variety,"* retain sufficient of the *sanguinea* character to make them suitable for rock gardens.

Hypericums are among the important plants of the rock garden, and though all, in general cultivation, are yellow, they vary considerably in habit, and all may be increased by seeds or cuttings.

H. aggytiacum forms an upright little bush nine inches to a foot in height, the shoots clothed with small glaucous leaves and terminated by umbels of pale yellow flowers. There is doubt as to the hardness of this species, which is not infrequently badly hit in hard winters, but it is so nearly hardy as to be worth keeping stock of.

H. coris is one of the most satisfactory as well as one of the prettiest species. It forms many stemmed little bushes, the wiry stems well furnished with tiny grey-green leaves and surmounted by comparatively large, pale golden yellow flowers.

H. crenulatum is a low decumbent gem, the wiry stems clothed with tiny glaucous leaves with crenulate margins and bearing good, clear yellow flowers.

H. cuneatum is a dainty fragile beauty but apparently quite hardy. The slender thread-like shoots lie almost prostrate and are clothed with tiny wedge-shaped leaves of a somewhat glaucous hue. The flower buds before opening are rich red; the expanded flowers beautiful golden yellow. Given a hot sunny position in sandy soil the plant flourishes and is never more attractive than when the flowers are in the bud stage. Seeds are produced fairly freely, and cuttings may be rooted, but the plant must be carefully handled, as the shoots are abnormally brittle.

H. empetrifolium is an erect grower making fifteen inches or more when in a suitable position, the stems clothed with small heath-like foliage and bearing at their summits numerous golden yellow flowers. A sunny position sheltered from east winds is best for this species.

H. fragile, by some considered a variety of *H. olympicum*, is a robust grower making a profusion of arching, wiry shoots thickly furnished with small grey leaves and bearing abundance of golden yellow flowers. This is a good plant for a pocket between large stones, where it can spread out its stems to the sun.

H. Kotchyanum grows about six inches high and has somewhat hoary leaves and bears on each shoot several golden yellow flowers.

H. nummularium is another dwarf about six inches or so in height, the slender stems clothed with roundish leaves and terminated in due course with beautiful golden flowers.

H. olympicum, alluded to above, is more erect than *H. fragile*, with the same glaucous leaves and yellow flowers.

H. olympicum citrinum, of upright habit, has pale, citron-yellow flowers, and is a plant of great beauty, forming quite a considerable bush some fifteen inches or more in height.

H. polyphyllum is somewhat in the way of *H. olympicum*, but is more diffuse in habit, never reaching the height of the latter. The stems are more arching, furnished with smaller glaucous leaves and bearing numerous golden yellow flowers.

H. repens has small heath-like leaves, and in habit is somewhat intermediate between *H. coris* and *H. empetrifolium*. The bushy habit and racemose inflorescence render it distinct. It is often confused with *H. reptans*, a totally different plant of prostrate habit, the shoots lying close to the stones among or over which it is growing. The slender stems bear

numerous bright green leaves, forming a lovely carpet, and the flowers, of large size, are of a beautiful golden yellow. This is a doubtfully hardy species and should have a sheltered position, certainly protected from cold wind.

H. rhodopeum is an interesting dwarf species with hoary leaves, reminiscent of *H. kotchyanum*, and likes a sunny position.

H. tomentosum is another of the doubtfully hardy species but succeeds in a position facing the sun, and where it can be dry in winter. A good way is to plant close under a somewhat over-hanging stone, or just under the branches of a dwarf shrub, where the shoots can grow out during summer and the roots will be dry in winter. The prostrate shoots are furnished with downy leaves and bear pale yellow flowers.

(To be continued)

Mushrooms. A Chance Crop.

THERE are few crops more welcome to many folk than Mushrooms, yet it has to be said in respect to their culture, that even after the most carefully arranged plan has been followed, the results do not always come up to our expectations. The spawn may have been procured from the best source and the bed made up on approved lines, with stable manure minus straw, and specially selected loam as a covering. The bed is spawned, and then we watch and wait—but no mushrooms appear! We do not quite know always to what we may attribute our non-success. It may have been the spawn; more likely it is the over-heating of the bed—at any rate we miss our favourite dish. That is the experience some of us have had at one time or another, though we may not confess it. There is another way to be tried, though it cannot be guaranteed. It is the dibbling about—wherever manure has been worked in—in the garden, of pieces of spawn, amongst second early Potatoes, alongside of Peas and Beans, and sometimes, where the crop under cover fails, we find ourselves able to gather mushrooms without having made up a bed—a crop that is appreciated though only half expected—a chance crop, if you will.

W. LINDERS LEA.

Zonals and Fuchsias. Old Greenhouse Favourites.

IF it were possible to obtain statistics as to the variety of greenhouse flowering plants, I have no doubt that we should find there would be many subjects with which most people would be familiar, and from a long experience had come to regard as almost indispensable. If observation counts for anything, there would be at least two plants that would exceed others in point of popularity, and I venture to say that such a "census" would reveal the fact that Zonal Pelargoniums ("Geraniums") and Fuchsias would lead the way. This, I submit, is not surprising, as it is hardly possible to choose two subjects which, taken all round, render such service to the owner of a greenhouse. One reason for this is that both are extremely easy to grow,

and, moreover, yield bright and attractive blossoms for a long period.

THE TEST OF POPULARITY.—Some flowering plants are popular for a time only and then give place to others, owing to the dictates of fashion or custom, but Geraniums and Fuchsias have stood the test of time and are grown perhaps as widely to-day as they were thirty or forty years ago. It is true that the number of varieties has not increased in the same degree as other subjects one could mention, but that is perhaps a point in their favour; for it can be truly said of the two plants in question that of the many favourites of several decades ago, some "hold their own to-day."

SOIL.—The compost best suited for them is one made up of good friable loam and leaf-mould in equal parts, with an addition of coarse sand and rotted dung, that from an old Cucumber bed answering admirably. These should be passed through a sieve and the rougher portions placed at the bottom of the clean, well-crooked pots. Geraniums and Fuchsias can be bloomed satisfactorily in five-inch pots, but if one desires larger specimens, and really wishes to see what splendid results may be achieved, then let him pot on a few into seven-inch pots. It is when they are specialized, and grown beyond the normal sized pot, that one realizes what these two favourites are capable



HABERLEA FERDINANDI-COBURGII.

SIMPLE CULTURE FOR SPLENDID RESULTS.—Whether it be one making a start in "gardening under glass" or someone who has not given these two old beauties special attention, there can be no doubt that no two subjects are calculated to give more pleasure and satisfaction than these, as they are not dependent upon, nor do they actually need much heat, neither are they troubled with a host of enemies. If one may use a term at once easy of understanding, Geraniums and Fuchsias are "safe plants for both inexperienced and experienced." This does not imply that they fall short of beauty in any way; rather is it because their wants being few, that almost anyone who is prepared to treat them well may count on a glorious display.

To procure a stock of plants then is the first duty, in the absence of home struck cuttings, and it may be said that the initial cost is the last, for no plants afford more opportunity for increasing.

of By rubbing off the side shoots of Fuchsias until the desired height is reached, one may, in sacrificing bloom the first season, have nice sized standards by the second year, carrying good heads full of blossoms.

In the case of Zonals the grower may have flowers practically all the year round if so desired by pinching off all flower buds of one batch of plants until September, and building up the plants by the use of stimulants occasionally, taking care to allow them a sunny position in order that the wood may ripen. It is not necessary to keep such plants in the greenhouse during summer, as they can be located in cold frames. During winter it is not essential to keep the temperature of the house beyond 55 degrees for Zonals, to enjoy a rich feast of colour. Fuchsias, after they have done blooming in the autumn, are better for cooler conditions, and almost any place from which frost can be excluded will meet their

requirements until towards February, when they may again be brought into warmth, the shoots cut back, and any re-potting needful done.

These two old-time favourites are worthy of specializing by those who have small greenhouses.

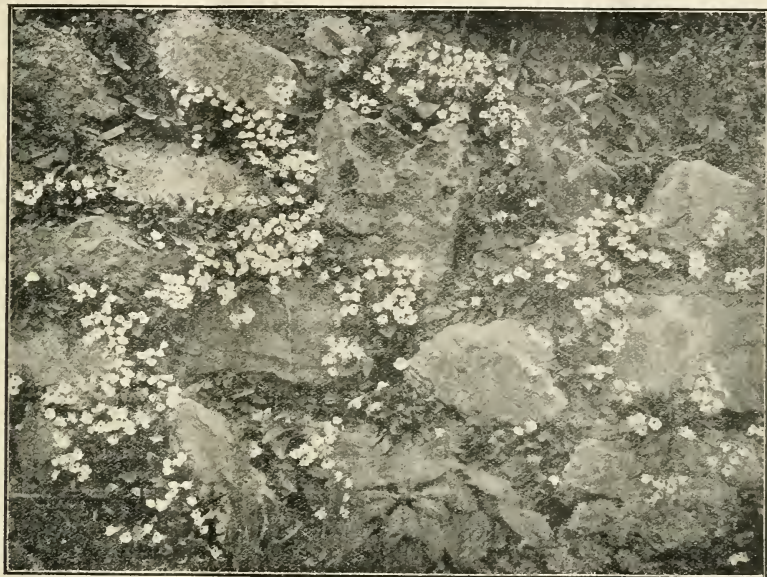
W. LINDERS LEA.

Chrysanthemums. Summer Quarters

THE Exhibitor of Chrysanthemums is fully alive to the importance of reserving space in his garden

aimed at, it cannot be denied that the plants which are able to be placed where the sun will reach them most of the day, are more likely to yield the finest flowers, whether they are produced from the crown or terminal buds. Garden paths are possibly the only places an amateur can make use of; yet, however small the collection, having in view the value of the blooms in the dreary season, every effort should be made to build the plants up by feeding and attention, and to give them a place in the sun while out of doors.

W. LINDERS LEA.



HABERLEA RHODOPENSIS
growing in a shaded wall at Glasnevin.

during the summer months where his plants are able to obtain the maximum amount of sun and air, so essential to the perfecting of growth and wood ripening. He arranges, if at all possible, for them to occupy positions—sometimes encroaching on his vegetable domain—where they can be located in single rows, so as to ensure these desirable results, as he knows from past experience that, with many varieties at all events, ripening of wood is all important. With the amateur, who possibly grows mainly for home decoration, the case is somewhat different, as, not infrequently, he is handicapped for room and has to make the best of his ground. Notwithstanding this, if blooms of good quality are

Sweet Peas. Mid-season Duties.

VERY much may be done in keeping up the quality standard of Sweet Peas, as well as increasing their output, by timely attention at mid-season—the half-way stage. It is possible that up to now they have flowered exceptionally well and need only a little help to ensure a continuance of charming blossoms. Where several rows are grown this is not at all difficult of accomplishing. It may be summed up in two words—rest, recuperation. Where plants have been blooming for weeks it is to their best interests in order that they may recuperate, to pick off every flower and bud to denude them for, say, a week.

and in the interim to mulch, on either side, the rows with rotted dung, bone meal, or some approved artificial manure. If the season be dry the plants should, in this time of enforced rest from blooming, be well supplied with water too, and syringed two or three times during the week, at nights. It is really surprising what good results follow this course, both as regards quality and quantity of blossoms. We all know that no annual gives us flowers more liberally, and if restricted in the height of the season, it only for a few days, the advantage is soon appreciated. We all know that mulching conserves moisture as well as affording nutriment; yet, in our eagerness to gather the blossoms, we sometimes forget how important it is to prolong the blooming, and incidentally to retain as far as possible the quality of the flowers. It involves a little sacrifice, but it is always justified in the improvement that follows. In any case no seed pods should be allowed to remain if the object of the grower is flowers for cutting. In small gardens it does not pay to grow Sweet Peas for seed; it is always best to procure such from people who make a business of it, and who gather seed as the outcome of the first and finest blooms. The small grower who desires both flowers and seed is running a risk, and not infrequently, does not make much of a success of either.

W. L. L.

Propagating Pinks.

WHAT a wholesome fragrance there is about Pinks, and what pleasure they give to countless thousands! They bloom so abundantly and their culture is so simple that the veriest tyro in the ways of gardening need not have any misgivings as to success. Would you have an edging of snowy whiteness to your paths next June? Would you have flowers so lavishly produced and so rich in perfume withal that you need not hesitate to gather bunches of them? Then start propagation this year. Towards the middle of July is a good time to commence with cuttings, as then one may root them in the open ground, and they need not be disturbed until the following year, and not then if given enough room, beyond the number needed for edging purposes. A bed should be made up of loam and sand or clean road scrapings, i.e., free from petrol or other similar harmful matter. Coarse river sand is, however, safest. Cuttings, with the tips shortened, need to be firmly planted, otherwise worms are apt to uproot them. Pinks should not be permitted to grow on until they make miniature beds. The best flowers are those gathered from young plants given plenty of room.

W. LINDERS LEA.

The Forget-me-not as a Flowering Plant.

THE Forget-me-not or *Myosotis* is a charming plant for covering the otherwise bare beds of Roses during the dull winter months, and in the spring. It is of very easy culture and makes a striking display of

blue near the ground in March and April, or later than that. Its value on the rock garden, where it should be allowed to seed and grow to its own sweet will, can not be overestimated, and large clumps of it close to the blue *Anubrieta* look really grand.

Free use should be made of this beautiful little plant, for I am certain that all will be delighted. As an edging for the winter bedding it is splendid and we may say it is a pleasing change from the ever abundant *Crocuses*. Seed should be sown early in June, if not before, in a prepared seed bed of fine soil. The seedlings should be pricked out later, watered as needed, and in September or October transferred to their permanent flowering positions.

Any who possess old plants may lift and plant these in their reserve garden. They will seed well, and the seed will fall into the ground and grow. When the young plants come up they may be pricked out as usual and the old ones discarded, as they will be useless. It is charming the way this plant covers the dull, grey soil and the boulders of the rock garden, and as I hope others who have not yet done so will try it, I send you this brief note of appreciation.

E. T. ELLIS.

Roses of Yesterday.

Reminiscences of a Great Grower.

THERE is an oft quoted saying which runs:—"He who would have beautiful Roses in his garden must have beautiful Roses in his heart. He must love them well and always." They are the words of one of the greatest growers of his time—the late Dean Hole, and are as applicable to those who cultivate Roses to-day as when they were penned forty years ago. The meaning underlying them is obvious, and "all who run may read." In effect, it is just this, that to lovers of the Queen of Flowers, the Rose must receive their constant attention, and be in their thoughts in the days when bereft of leaves, and there are no flowers to give grace and charm, quite as much as in sunny June; indeed, it is the unremitting attention given to Roses in the off season that tells in the long run.

My first communication with this Prince of the Rose World dates back to the time when he was Canon of Causton, in Nottinghamshire. It was at Causton Manor that he started the "coddlers of Teas" (who grew them in pots under glass, because they were deemed too tender and delicate for outdoor culture), by growing them in the open ground and produced magnificent blooms. Included in this collection were such old varieties as *Gloire de Dijon*, *Jules Margottin*, *Celine Forestier*, *General Jacqueminot*, *Charles Lefebvre*, *Madame Falcot*, *Dr. Andry*, *Alfred Colomb*, *Duke of Edinburgh*, *Catherine Mermet*, *Marie van Houtte*, *Homere*, and others.

With the advent of late autumn the Dean would be tending his favourites, giving those that needed it protection about the beds. No man looked after them more. He had a winning personality, and was held in high regard by amateur gardeners in and about Nottingham. He was a frequent visitor

at the Rose shows of his time, and was much in request as a judge. It was an education to have a chat with the good Dean, and to be in his company was a delight. He had his own special pets amongst Roses, and retained his affection for them after his removal to the Deanery of Rochester.

To think of placing old *Gloire de Dijon* in the very first rank would need a great imagination to-day with the wealth of lovely Roses as we know them, yet we find in his "Book about Roses" this testimony concerning it:—

"If ever for some heinous crime I were miserably sentenced for the rest of my life to possess but a single Rose tree, I should desire to be supplied on leaving the dock with a strong plant of *Gloire de Dijon*."

W. LINDERS LEA.

May Flowering Tulips at the Royal Botanic Gardens, Glasnevin.

DURING the first three weeks of May Tulips were a prominent feature at Glasnevin. They are mostly grown in groups in the long herbaceous borders, and nowhere do they appear to greater advantage. The fresh young growths of the innumerable herbaceous plants, which are fast succeeding them, act as an admirable foil for the brilliant colours of the Tulips. Some few are grown in beds, notably a fine mass of the lovely soft rose Darwin *Clara Butt* near the Orchid houses, and another bed of a tall biscuit-coloured variety in front of the long range.

In the borders a considerable collection of Cottage and Darwin varieties is grown, and of the former the following were particularly noted:—

C. T. fulgens maxima lutea, a fine flower of rich, deep yellow, with pointed petals; *maculata minor*, with bright crimson globe-shaped flowers; *Royal White*, a fine large white of good substance; *Gesneriana lutea major*, rich canary yellow; *The Fawn*, creamy yellow, shaded fawn; *Bouton D'Or*, bright orange yellow, flowers cup-shaped; *fulgens lutea*, deep yellow with pointed segments; *Caledonia*, brilliant orange scarlet; *Ellen Willmott*, a beautifully shaped flower, long and slender, lemon yellow on the outside of the segments, deeper on the inside; *John Ruskin*, fine egg-shaped flowers, salmon pink, shaded with yellow; *Aris Kennicott*, deep rich yellow, of the *fulgens lutea* type; *Inglescombe Scarlet*, a striking variety; *Glare of the Garden*, fine crimson scarlet; *Picotee Yellow*, soft, yellow-edged, rosy crimson.

Of the Darwins the following were most striking:—*Hypolite*, tall, flowers mauve; *Manceau*, reddish purple and violet; *Antony Rozen*, bright rosy pink; *Pride of Haarlem*, large flowers of rosy carmine, a very handsome Tulip; *Europe*, salmon scarlet, very fine; *Glow*, crimson scarlet; *Harry Veitch*, fine deep crimson, one of the best; *Ariadne*, crimson scarlet; *Bartigon*, carmine, a beautiful and effective Tulip; *Wedding Veil*, soft lilac passing to white; *Edmée*, rosy cerise, paler at the margins of the segments; *City of Haarlem*, a tall, satiny crimson Tulip and one of the most effective; *Mr. J. G. Baker*, carmine scarlet; *Maure Clair*, lilac, edged white; *La Fiancée*, pale rosy cerise.

Spring Bedding in the People's Gardens, Phoenix Park.

EARLY in May the display of flowers in the People's Gardens was very fine, and on fine days large numbers availed themselves of the opportunity of enjoying the beautiful colours of Tulips and the sweet perfume of Wallflower. In the course of a brief visit the following notes were jotted down at random, just as some effective bed or border took the eye.

Around the Carlisle statue an immense glowing mass of the beautiful orange yellow *Cheiranthus Allioni* was interplanted with Darwin Tulip *Bartigon*, the whole edged with double white Arabis. This was certainly one of the most effective beds in the garden. An oblong bed of the brilliant *Fire King* Wallflower with *Laurentia* Tulips, the whole edged with double white Daisies, was effective.

Aubrietia Hendersoni as a groundwork for mixed Tulips, the whole edged with Arabis, had many admirers, though a good deal of beauty is lost when mixed Tulips are used in a bed. Another oblong bed was filled with *Eastern Queen* Wallflowers mixed with Tulip *The Fawn* and edged with White Arabis.

An attractive bed was composed of *Eastern Queen* Wallflowers interplanted with *Prince of Austria* Tulips, a groundwork of blue *Myosotis* and an edging of white Arabis.

The long border so well known to those who frequently visit the garden throughout the summer, had an edging of white Arabis, then a broad band of a good blue *Myosotis* followed by Wallflower *Ecire Queen* in a wide belt, and interplanted with mixed Tulips, finishing at the extreme back with bushy plants of *Cloth of Gold* Wallflower. The border was undoubtedly effective but the mixed Tulips were somewhat bizarre at close quarters. Several beds were planted with a very good strain of Polyanthes in various colours, and were apparently much admired by visitors.

Many shrubs were flowering or coming into flower, in particular that best of all Berberries, *Berberis stenophylla*, which is planted in quantity. With the tender green young leaves of many other trees and shrubs and the silvery grey foliage of *Pyrus salicifolia* the whole scene was one of great charm. There is no doubt the citizens of Dublin are fortunate in having such a charming resort so close to the city.

VISITOR.

Allotments.

WE have been agreeably surprised here at the large number of allotments which are still under cultivation. Quite a number of the groups of plots were cultivated during the war for the first time, but they have every appearance at present of becoming permanent institutions. It was quite expected that many of the plots would be disbanded. There are, of course, in some of the groups vacant plots, but as regards the whole group they present a prosperous appearance. Such groups as have been disbanded are on land that building operations have commenced on or for other purposes, and, excluding the disbanding of plots in the public parks, a very satisfactory state of affairs exists. Much discussion takes place in the world in the endeavour to bring us again to pre-war

valuation, but it is certain, at present, allotment holders have no desire that plots should be pre-war in number. The increase here to-day is still nearly ten times the number prior to 1914.

CLUB-ROOT. When transplanting Cabbages, Cauliflowers, or any of the green crops, the roots should be examined. Plants with swollen or fleshy roots should be destroyed. It is very probable such plants are attacked by club-root or finger-and-toe, which disease is very prevalent on allotments owing to lime not being applied. To most allotment holders all diseases or pests which attack plants are either canker or grub, whichever name is in local use. Cabbages, however, are frequently attacked by the Cabbage root fly, which produces small swellings which, on being broken open, reveal a small grub. But club-root is a disease which attacks the Cabbage family, including Turnips and even Wallflowers, and is quite distinct from an insect attack. In foul land both club-root and root fly can often be seen on the plant. Where this is the case Cabbages, &c., are better not planted, and the land used for Potatoes or any other crop. The disease is often introduced by plants obtained in markets, or from other plot-holders. Such plants should always be examined before planting.

Slugs have been extremely troublesome this season on allotments. The chief hiding places for slugs and snails are the grass paths which separate the plots. The grass, which usually is coarse and rank, provides shelter, and especially in the winter, when slugs are in a more or less dormant condition. It is wise, therefore, to skim the grass from the paths, which, in any case, makes work keeping it cut during the summer. Slugs are difficult to find in the daytime as they feed chiefly at night. Rows of Peas and transplanted green suffer badly; some crops seem to be untouched. Fresh lime should be scattered around the plants attacked. The lime should be occasionally renewed, especially after rain. Heavy dressings of soot are also useful against slugs. If the pests are very prevalent a good dressing of gas lime should be applied to the land in the winter.

POTATO SPRAYING.—The period for spraying is near at hand. The exact time depends, of course, on the state of growth of the crop. It is quite certain that, in this country, spraying properly carried out results in a greater yield of healthy tubers. All who have spraying to do should work from the instructions given in the leaflet on Prevention of Potato Blight issued by the Department of Agriculture and Technical Instruction for Ireland, particulars of which are found in the advertisement columns of this Journal.

POTATOES.—All the crop will now have been planted. The early varieties are in an advanced state of growth and are ready for the final moulding. Unfortunately, throughout the north much of the early crop was cut back by frost. In such cases, where there are a large number of shoots springing from the ground the weaker ones might be removed. The soil should be constantly harrowed among rows of Potatoes. This harrowing is too often neglected on plots. From the time the Potatoes are through the ground constant tillage is necessary.

GENERAL WORK.—During this month we try to plant out as many Cabbages, Cauliflowers, Sprouts, Savoy and Kale as we can find land for, also utilising

the ground between rows of early Potatoes. The best time is, of course, to plant with showers of rain, postponing all other work when there is a possibility of getting these crops out. If this is not possible the plants should be given a good watering in the seed bed. It occasionally happens that land is not at the moment available and the plants are becoming drawn in the seed beds. In this case it is a good practice to make up a bed and transplant fairly close together. When Broad Beans have reached the required height the tops should be broken off. Usually Black Fly makes this necessary in any case. Onion and Carrot beds will benefit by an occasional dusting of soot, and especially immediately any thinning out has been done. When spraying Potatoes the Celery might also be sprayed, but care is necessary to use only a *weak solution* of the spray.

PARSLEY.—To keep up the supplies during the winter and spring months seeds should be sown to follow that sown earlier. The ground ought to be well prepared for Parsley in winter. If the ground is heavy old mortar rubble is useful to work into the surface of the soil. Thin out the seedlings to about six inches apart and give them an occasional dusting with soot.

LEeks.—When the plants are large enough they should be transplanted. The crop pays for a liberal addition of manure to the land. The plants can be set out in rows about twelve inches or more apart, and about eight inches between the plants. With a flat-bottomed dibbler make some good holes at least six inches deep and into these drop the plants. Just sufficient soil should fall into the hole to cover the roots. A common practice is to cut the ends from the leaves, but a very slight trimming is all that is necessary; the object seems to be to prevent worms taking the leaves into the soil. G. H. O.

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to H. B. Barton,
Esq., D.L., Straffan House, Straffan,
Co. Kildare.

KITCHEN GARDEN.

ASPARAGUS.—Do not cut the Asparagus harder than is absolutely necessary, as it weakens the crowns for future bearing. Give the beds a vegetable manure and keep perfectly clear of weeds. Judiciously thin the weak growths, and support those that are left. See that the beds do not suffer from want of water.

ARTICHOKES.—Cut and use the Chokes before they open. Mulch with good manure if not already done, and keep the plants well supplied with water.

CARROTS.—A good sowing of Matchless Carrot may be made for winter supplies, also Early Nantes, for using young. Keep the hoe well plied between the main crops and give an occasional dusting with soot. Spray the foliage with clear soot water on hot nights.

CUCUMBERS.—Watch the Cucumbers during hot weather and shade slightly. Add a little soil to the roots as soon as they are through the mounds, carefully thinning the growths and fruits, so that the plants do not suffer; give air cautiously. Personally, I never open the ventilators in the Cucumber houses; but unless one has experience this is not advisable.

CELERY.—Plant out the Celery into prepared trenches as each batch becomes fit. Thoroughly water each row as it is finished, and dust with lime in the evenings if slugs are troublesome, a little and often. A weekly dusting of soot will greatly stimulate this crop. The earliest sowing and plantings will require the rough outside leaves removed and a little good soil added for top dressing.

LETTUCE AND ENDIVE.—Select a cool border for sowing all Lettuce and Endive in hot weather. Keep all growing crops hoed and well supplied with water. Sow thinly and allow them to mature where sown.

BEEF.—Sow sufficient Globe Beet for the supply of young roots during the autumn.

RUNNER BEANS.—Make a final sowing of Runner Beans in a sheltered position from early frosts. Add the stakes to the plants already up and pinch out the tops when they reach the top of the supports.

GREEN VEGETABLES.—Continue to plant out as quickly as possible all Sprouts, Kales, Broccoli, Cauliflowers and Cabbage, filling up the ground as it becomes vacant. Allow plenty of room for each specimen to properly develop. Visitors to these gardens often say: "You allow your plants plenty of room, but they seem to repay you well for it."

ONIONS.—Onions of all types are growing rapidly and require constant attention with the hoe. Spring sown Ailsa Craig and Premier are just beginning to take the feeding and artificials may be carefully applied. Make a sowing of Silver Queen for salading.

VEGETABLE MARROWS.—Give the growing Marrows plenty of water and keep the superfluous growths cut away. Use the fruits in quite a young state and send in Imp. Custard varieties for the dining room.

PEAS.—Make a final sowing of an early variety about the middle of the month. Keep all growing rows staked and mulched in good time. Do not allow the pods to become too old before using.

HARDY FRUIT GARDEN.

STRAWBERRIES.—Royal Sovereign requires to be picked as soon as it is ripe to get the full flavour. Viscountess Hericart de Thury is still one of the best for preserving; endeavour to obtain enough for a good boiling; this will lessen the work of the housekeeper and also give far better results. Pick perfectly dry. Of course, the gardener must be guided by the requirements of the family he is serving in the way in which he sends in his fruit for dessert. Here it is four times a day, breakfast, lunch, tea, and dinner. There is also a considerable number of boxes to be sent to various members of the family. We have no difficulty in getting Strawberries to London by Post, and yet, with the same system of packing they will not reach Scotland in good condition. Why, I cannot explain. See that the late varieties do not suffer from drought.

CHERRIES.—Cherries have required thinning. See that no insect pests gets established, and keep the growths pinched and the leaders trained in for extension. Give a dressing of lime and a thorough good soaking to trees against the walls. Place the nets in position as soon as they commence to color. See that the nets hang quite clear of the trees.

GOOSEBERRIES.—Thin the fruits for preserving and cooking; this will greatly relieve the trees of such

heavy crops as are on the trees this season; give a good dusting of lime through the plantations. Keep the side growths of the cordons pinched back. Use the hoe as often as possible; this will assist the moisture.

QUINCES.—Planted in a moist position these fruits, beyond supporting the main branches, require very little attention. They are not grown to the extent they should be for their fine flavouring qualities.

WATERING TREES.—All wall trees are requiring plenty of water at the root; it is advisable to go over a certain amount of the trees every day. A good mulching will greatly help the trees, and also an occasional dressing of lime, and a good dressing of a well tried artificial manure.

PEAR TREES.—Pear trees growing against walls, &c., will require to have the leading shoots nailed or tied in, and the rest stopped, pinching out the tips of the growths. The early varieties are ready for thinning, although the frost during the early mornings in May have partially performed this operation.

FLOWER GARDEN AND PLEASURE GROUNDS.

SUMMER BEDDING.—Complete the bedding as quickly as possible. See that all pot plants are well staked, and that the balls of the plants are thoroughly well soaked before planting. Only carry sufficient plants to the beds that can be disposed of the same day, otherwise, if large quantities are dumped down at the various beds, the work of the Inside Department will have been in vain during the past six months, and many plants in excellent condition when leaving the frame yard will be wrecks in less than a day.

SPRING BEDDING.—Plant out Wallflowers, Sweet Williams, Canterbury Bells, &c., as they become fit, endeavouring to get them established before the expected hot days of July and August. Propagate all other spring bedders according to requirements.

SWEET PEAS.—Place the tallest stakes in position before the Peas reach the tops of the last sticks. Where extra fine flowers and stems are required keep the side shoots pinched out; mulch the rows with some good manure; spray over with clear soot water after hot days.

HERBACEOUS BORDERS.—Carefully watch all newly planted herbaceous plants for water. If they appear stunted and refuse to grow it is generally a sign that the crowns are parched. Staking will now require considerable time; this operation requires to be done in a perfectly natural way. Hazel pea stakes placed around the plant, so that it is supported and yet not lunched, is perhaps one of the best systems. Strong growing Delphiniums, Dahlias, Hyacinthus candicans, Gladiolus, &c., are best staked singly.

SUMMER CHRYSANTHEMS.—Pinch the tips of the leading shoots and endeavour to form good shapely bushes. Stake out thinly and give weak doses of manure water. Watch carefully for any sign of leaf miner and greenfly.

ROSES.—Continue to tie in the shoots of the climbing Roses. Where extra fine flowers are required attend to the feeding, watering and disbudding. Keep the hoe at work on the beds and borders, and keep a sharp look out for insect pests.

PIKES.—As soon as the old-fashioned Florist's

Pink have finished flowering they may be propagated by means of pipings inserted closely together in hand lights under north walls, and kept clear and moist till roots are formed.

CARNATIONS.—Carnations will require staking before the flower stems become too long. Give a dressing of *Clay's* and lightly hoe in; disbud the buds to one to obtain the best flowers.

RHODODENDRONS AND AZALEAS.—Immediately the flowers have faded remove the seed pods at once to give the young growth every chance. Choice varieties will require mulching, and any pruning may be now taken in hand.

LILIES.—Stem rooting Lilies should be given a slight top-dressing of prepared loam, cow manure, and sand. See the plants do not suffer from drought or want of staking.

CLIMBERS.—Continue to pay strict attention to all climbers, training them thickly and evenly to cover their allotted space. If growing at the foot of trees or walls they will require plenty of water. Endeavour to keep the walks, &c., clean and smart, and everything in good order.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

ASPARAGUS.—The cutting of the shoots should cease about the third week of the month to enable the plants to build up strong crowns for next season. Watering with liquid manure and occasional dressings of salt and soot will greatly assist to attain strong growth. It is advisable to put stakes or other supports to them when they get top-heavy, as the wind causes much damage to the crowns with the swaying about of the tops, especially in wet weather; keep the beds free from weeds.

BRASSICAS.—Cabbage, Cauliflower, Brussels Sprouts, Broccoli, Savoy and Kale should be planted out in their quarters for a supply throughout the season. Choose showery weather for the work if possible, but, in the event of a dry spell, puddle the roots in a mixture of cow manure and clay made into a thick paste before planting; this will save so much watering. With the exception of late Broccoli all the above require rich, well tilled ground to give good results. Broccoli stands the winter better if planted on firm soil and where no fresh manure has been added; where early Potatoes, Peas or Strawberries have been cleared off, offers a suitable site, simply cleaning and levelling the ground.

CELERY.—Late plants, as they become fit, should be put out into the trenches and well watered in, shading for a few days if necessary. Guard against drought at all times; neglect of this will result in failure. Dust with soot occasionally to ward off the Celery fly.

FRENCH BEANS.—Continue sowing at intervals of a fortnight to keep the supply going of tender pods. Dutch Brown and White Haricot Beans are in greater demand for winter use, and should be sown early in the month, allowing the whole crop to mature, when they may be pulled up and hung in open sheds to ripen.

LEeks.—Plant out these on rich soil in drills eighteen inches apart and half that space between

the plants. Make holes with the dibble a foot deep, and after shortening the tails and long roots drop them into the holes, adding a little soil to steady them.

PEAS.—Early in the month late varieties must be got in, but for late picking it is advisable to choose first earlies, sowing them up to the end of the month.

TURNIPS.—Small sowings at intervals during the month should be made to supply tender roots. Early Snowball and Golden Ball are good varieties to grow; the former very soon goes past use. To encourage quick growth keep the hoe plied along the drills, dusting them over with soot to ward off the fly. Dwarf Top Swedes may be sown during the first week to supply roots for winter use.

THE FRUIT GARDEN.

Where heavy crops of fruit have set on Apple, Pear and Plum trees thinning will be necessary to obtain good quality fruits. Trees carrying good crops should be attended to in the matter of watering and feeding. The pinching and thinning of the young shoots will claim attention during the month; reduce them to the third or fourth leaf from the base, with the exception of those meant for extension. Gooseberries, Red and White Currants will benefit too if time can be spared to go over them.

STRAWBERRIES.—Layer the earliest runners into three or four-inch pots plunged in the ground to work up a stock for forcing and making new plantations. Choose the first plant of the runner from young stock; when well rooted sever them from the parent and remove to the frame ground. Pot up those intended for forcing into six-inch pots, standing them in the open sunlight on a hard ash bottom. The earlier new plantations are made the better, if the ground is vacant.

RASPBERRIES AND LOGANBERRIES.—Give this a good soaking of liquid manure to swell up the fruits, and keep the surplus suckers pulled up; if not already mulched do so now.

Keep the hoe going in the fruit quarters on all favourable occasions, to keep the weeds down, and also to check evaporation in dry weather.

THE PLEASURE GROUNDS.

SUMMER BEDDING.—Complete the planting out of all tender plants as soon as possible now, and if the weather is dry keep well watered and sprayed overhead in the evenings until growth gets a good start; afterwards a regular use of the hoe to keep the surface soil loose will check drought.

HERBACEOUS BORDER.—Attend to the staking of all plants requiring them; work in a few branches about the plants, which in most cases will give the necessary support without the use of twine, and the subsequent growth will hide the stakes. Remove all decayed flowers and fill up any vacant spaces with annuals or Chrysanthemums.

ROSES.—Examine at frequent intervals for aphids and caterpillars, and deal with the trouble at once. Spray in the evenings with some insecticide for aphids, but caterpillars must be hand picked; these are sure to be found curled up in the leaves.

SWEET PEAS.—Those planted out in April will be flowering freely, and all blooms should be picked off regularly. Keep the main shoots tied up to the stakes, thinning the others if overcrowded. Water well with soot water and give an occasional dressing of artificial manure, hoeing it in.

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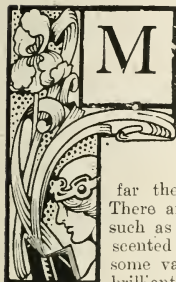
JULY

1921

EDITOR—J. W. BESANT.

Mount Usher, Ashford, Co. Wicklow.

W. PHYLIS MOORE.



MOUNT USHER has always been famous for its trees of *Cordylina australis*, and many gardens in Co. Wicklow have fine specimens from seed saved and distributed by the late Mr. Edward Walpole.

Cordylina indivisa is by far the finest species of the genus. There are other very attractive sorts, such as the free-flowering and sweet-scented *C. Banksii* and its handsome variety, *C. erythrorachis* with its brilliantly coloured mid-rib. These also thrive at Mount Usher. *Cordylina indivisa* was a long time in the British Isles before it flowered. Much difficulty was found in getting imported seed to germinate, hence it was greatly treasured in the few gardens fortunate enough to possess it, and in which it would grow. It well merited the admiration bestowed upon it, as it is a very striking ornamental plant, especially in its younger stages, when the leaves reach down to the ground. The two fine specimens at Mount Usher have been there about 15 years and are evidently quite happy. The plant of which the photograph of the inflorescence was taken, is a stately one thirteen feet high; the lower leaves have fallen off, showing the stems. The leaves are very numerous, some four feet long, seven inches broad, glaucous, with a bright red mid-rib, which is a striking feature. The inflorescence springs from the centre among the young leaves, forces its way outwards in a remarkable manner, even perforating some of the leaves. At first it is erect, then horizontal, and eventually bends directly downwards parallel to the stem. This can be seen in the photograph published. At time of writing, May 14th, although not fully developed, it has numerous large glaucous, leaf-like bracts which completely cover the whorls of flowers occurring at intervals along the rachis. One of the upper of these may be seen in the photograph, bent back to shew the flowers underneath it. The buds are dark plum colour, opening into creamy white flowers densely crowded in a beautiful spiral arrangement of spikelets with golden yellow anthers. Dark purple, almost black, berry-like fruits in the autumn are

very decorative and of great weight. *Cordylina indivisa* is a native of New Zealand and belongs to the *Liliaceae*.

There are so many trees, shrubs and plants of interest at Mount Usher it is difficult in a small space to describe them. The following are a very few noted during a visit in May, when the broad walk was aflame with fine big plants of the deciduous Azalea, Rhododendrons, Lilac, Tulips, Magnolias, Aubrietias, Clematis, and *Helichrysum bellidioides* abounded. The very stones in the river are held in a vice-like grip by *Saxifraga peltata*, whose delicate pink flower contrasted with iron-like roots and stems. A plant of *Acer carpinifolium*, the hornbeam-leaved maple, 13 feet high, with very upright growth, and the Asia Minor *Rhododendron Smirnowi* are interesting and seldom seen. *R. Smirnowi* is very hardy. Its stout leathery leaves have a thick grey blanket-like tomentum which is also on the scales of the flower buds. The flowers are in large trusses, bright rose-pink, with scalloped edges to the petals. Mr. E. H. Walpole, who carries on so well the work and traditions of Mount Usher, has extended the garden. A piece of rough scrub brambles and Allium under Alder trees is now effectively cleaned and planted, two swift-flowing streams adding greatly to its beauty. All visitors to Mount Usher have wondered at the way Mr. Fox succeeds with the *Gentian* family. In the new ground a patch, 12 ft. long, 5 ft. broad, of *Gentiana verna* in full flower, grown from seed, a sheet of brilliant blue, makes one full of envy, which feeling is increased when a group of *Lewisia Howellii* is seen on the moraine, with its wavy rubber-like leaves and beautiful soft pink flowers. I counted 42 plants in this group, and walked on quite overcome—with jealousy!

Myosotidium nobile defies the damp of a County Wicklow winter, and is sending up large thick shining green leaves, with flower-heads 4 inches across of bright azure blue with purple eye. It is a native of the Chatham Islands, and is sometimes called the Chatham Island Lily. It belongs to the Boraginaceae family. Mr. Fox has a colony of *Forget-me-not* *Ruth Fisher* spread round this lovely plant. The effect is a blue haze. *Calceolaria violacea* is generally treated, even in Ireland, to a sheltered position, if not given a wall. At Mount Usher it is used as a screen or shelter for tender plants. Its soft mauve



CORDYLINE INDIVISA IN FLOWER AT MOUNT USHER.

helmet-shaped little flowers cover the whole plant and make a very pleasing effect. *Androsace geraniifolia* has taken a "houl" in the new garden, carpeting the ground and climbing into the low shrubs in the most persistent manner. The small star-like white flowers are very pretty; the whole plant is so light and delicate it does no harm. It is usually seen grown carefully in a pot! There are Alder trees in the new garden, which in winter and spring, when their buds are a lovely purple, give great effect. Their stems are already clothed with climbing plants—clematis, vines, *Lonicera*s.

Schizandra rubriflora discovered by Mr. Wilson in Western Szechuan in 1908, is, so far, the most ornamental of the genus. Climbing up an ash-tree, its dull green leaves act as a foil for the rich red flowers, which have fleshy petals and are like miniature Magnolias. They are very numerous and hang downwards on long slender stems, justifying its position on the ash-tree, underneath which a good view of its charms can be seen. It should prove hardy in our climate, as it comes from an altitude of 6,000 to 7,000 feet. It belongs to the Magnolia family.

Azara microphylla variegata which smel's as sweetly in early spring as its green parent, looks like pure gold in the sunshine. This big spreading plant is a child of the late Mr. W. E. Gumbleton's original plant at Belgrove, Queenstown.

Prunus chinensis, which the late Mr. George and Mr. Edward Walpole imported with a number of plants from the Yokohama nurseries many years ago, is a very lovely shrub, with bright pink double flowers. *Viburnum prunifolia* a tall, elegant deciduous shrub, about 15 feet high, with smooth bark, reddish in the young twigs, smooth, oval leaves, paler green below, flat heads of flower, white, rather like those of *Laurustina*. A native of N.E. America, it is quite hardy.

The lovely Ayrshire rose has flung itself over a Yew hedge, its very thin branches twining themselves like stout string through the hedge. It is armed with wicked hooked prickles, a contrast to its beautiful white flowers, which unfortunately have little fragrance.

Sphaele campanulata.—This shrub is a native of Chili, and is not hardy. It has small oblong leaves of a dull green. The flowers are labiate-like, of a soft pale blue. It stands the winter at Mount Usher.

Brachyglottis repanda has been a tantalising plant to many gardeners. It evidently has idiosyncracies which we do not understand. Those who have seen a good plant flowering well have been always anxious to establish it—and many have struggled in vain. The truth is, it seems to grow well only under certain exceptional conditions, and far from being generally hardy, it is distinctly tender. It has a particular aversion to cold winds, draughts, and lime in the soil. In a mild climate and a warm soil it is a really beautiful and distinct plant, especially as it is evergreen, with fine large leaves, which when fully developed are shining green above white, blanket-like, underneath. They are deeply indented. I saw it in flower many years ago at Castlewellan, Co. Down. The late Lord Annesley figured it in his book, "Beautiful and Rare Trees, Shrubs, and Plants." I have also seen it in flower in the famous collection of Sir John Ross of Bladensburg at Retrevor. But by far the best specimen I have seen is that from which the accompanying photograph was taken. It was growing against a wall in a small enclosure at Mount Usher, part of two sides of which it covered, 8 feet high. In its young May growth stems, leaves, and young growths were covered with white tomentum. The dense panicles of flower were 18 inches long, 12 inches through, and hung in drooping graceful trusses beyond the leaves, after the manner of the old-fashioned plant we all knew as *Spiraea arifolia*, and which, we are now told, we must call *Spiraea discolor*.

The individual flowers are very small, and are closely crowded together. This plant has been called at different times *Eurybia Cunninghamii* and *Senecio Forsteri*. It is a native of New Zealand.

Rock Plants.

(Continued.)

Of Candytufts or *Iberis* a good many names will be found in catalogues, but it will usually be found that most of them will turn out to be *I. sempervirens*, *I. sempervirens*, or varieties of these species. They are all easily grown and showy rock plants, soon making good masses, but *I. sempervirens* is distinctly less robust and less striking than the latter,

but has the merit of a much longer flowering season. *I. gibraltarrica* is a choice and beautiful rock plant, although doubtfully hardy and not a reliable perennial. It is most satisfactory when planted in a dry, sunny place, where the seeds can ripen and, so to speak, sow themselves. Self-sown seedlings are sturdy, short-jointed, and harder than those sown in pots; they usually survive the winter and flower in early summer, bearing broad, flat corymbs of delightful rosy-lilac flowers.

Incarvillea has enjoyed a deal of well-merited popularity since the introduction of *I. Delavayi* and they are undoubtedly attractive when flowering freely; but they require a fair amount of space. The more robust species, such as *I. Delavayi*, *I. grandiflora*, and *I. g. brevipetala*, have thick fleshy roots, and like a deep, well-drained soil in a sunny position. They form rosettes of long leaves, and should be planted at least a foot apart in some wide bay of the rock garden. *I. Delavayi* throws up tall flower stems 18 inches to 2 feet high, sometimes more in well-established plants, and bearing at the summit large open trumpet-shaped flowers of rich rose colour.

Incarvillea grandiflora is a dwarfier species, in many ways better suited for the rock garden. It resembles *I. Delavayi* in habit, but the flower scapes do not attain to the same height, flowering at about 6 inches high or thereabout, the flowers large but of a richer rose than those of *I. Delavayi*. *I. grandiflora brevipetala* is a robust variety of *grandiflora*, approximating in vigour *I. Delavayi* at its best. A totally different section of the genus is represented by *I. Olgae*, *sinensis* and *variabilis*, which form weakish bushes of wiry stems clothed with finely divided leaves, and bearing rose or purplish-rose tubular flowers. They are unsatisfactory unless given very special attention in the way of root protection in winter. Constant damp they will not stand, and a position facing full sun is essential, also a well-drained sandy soil, the roots well under a rock or low shrub secure from winter rains and frost.

Inulas are associated in most peoples' minds with tall herbaceous plants of the "Elecampane" habit, but two at least are genuine dwarf rock plants of more than ordinary interest and beauty. *Inula acaulis* forms tufts of oblong leaves, close to the soil, and among them solitary heads of yellow flowers. *Inula montana* raises its heads farther from the soil, often 9 inches or so, and there unfolds its golden yellow florets. It is, however, not so unique as the stemless species mentioned above.

Irises are a host in themselves, and to mention half of those which might be used on the rock garden would occupy too much space, and a large genus such as the *Iris* is better dealt with by itself. Briefly, it may be said that all the dwarf rhizomatous kinds well known as *I. pumila* and *I. chamaeiris* are suitable for rock gardens, and do quite well on dry, sunny banks, where they flower in early spring, giving beautiful effects in blue, yellow, and intermediate shades difficult to describe. Special mention should be made of *I. latescens*, *statellae*, which throws up flower scapes over a foot in height bearing flowers of a charming combination of white and pale yellow. Another little section, namely, the *crested Irises* (*Evansia*), contains several dainty gems of great beauty and interest, but certainly requiring care to be successful with. *Iris tectorum* is

the *Iris* reputed to be grown by the Chinese on the roofs of their houses, and this gives a key to the treatment. It must have a sunny, dry place, with protection from damp in winter. Under the branches of a low tree, where the sun has free access suits it well, and in the Botanic Gardens at Glasnevin it does well under Yew trees where the branches are high enough to allow the sun under them. The leaves are about a foot long and slightly glaucous and the flowers lilac-coloured, the falls somewhat variegated with a darker shade. *Iris cristata* forms numerous slender rhizomes and grows freely in light soil, giving rise to narrow leaves six inches or so long, and bears small pale lilac flowers with yellow crests. The great enemy to this charming little plant is the slug, which devours everything but the rhizomes, hence due precautions are necessary.

Iris gracilipes is another delightful dwarf, and loves all the sun it can get, and is grateful for a little protection in winter in all but the mildest parts of the country. The rhizomes give rise to numerous branches, forming quite a little clump in time. The leaves are thin in texture and green, the slender stems bearing one or several flowers of lilac and white. In Sir John Ross's garden at Rostrevor House a beautiful tuft of this species was full of flowers in early June; it is growing in a sunny, warm border in front of a greenhouse.



BRACHYGLOTTIS REPANDA AT MOUNT USHER.

Jeffersonia diphylla is an interesting and pretty North American plant of the Berberis family, and thrives in a cool, moist pocket at the base of the rockwork. The leaves are deeply cleft into two lobes, and the solitary long-stalked flowers have numerous white petals with a central boss of yellow stamens.

Lathyrus is an important genus in the garden, including the Sweet Pea and the Edible Peas, but few of the species are suitable for the rock garden. In catalogues they will mostly be found listed under *Orobas*.

L. cyanus grows about a foot high, and bears blue flowers in early spring, *L. luteus* with yellow flowers, and *L. luteus aureus*, orange yellow, will reach 18 inches in height and are showy plants, flowering in spring and early summer. *L. pannonicus Smithii*, with hoary leaves and sulphur-yellow flowers, is quite one of the best, growing 18 inches high and flowering freely in June and July. *L. vernus* forms little bushes a foot high, and bears in spring numerous blue and purple flowers of considerable beauty. There is also a pure-white variety. *Leontopodium* includes the far-famed "Edelweiss," and is easily raised from seeds. It flourishes on a sunny, well-drained ledge and likes to spread over rocks. *L. alpinum* of the Swiss Alps is the form properly called Edelweiss, and is too well known in its hoary leaves and flannel-like flower heads to need any description. When flourishing in a hot, sunny place it becomes nearly white, and is then quite pretty. Forms of *L. alpinum* occur in the Himalaya and Japan, as well as in other parts of Europe, and there is now a *L. Farreri* with narrow leaves, presumably from China.

(To be continued.)

Notes from Rostrevor.

A FEW years ago a Judas-tree, *Cercis siliquastrum*, was a sheet of red-purple colour in June, and was a very striking object indeed. I have not seen this happen since then; for although the plant flowers freely and regularly every season, yet the foliage—induced, I suppose, by the moisture of our climate—nearly always pushes too soon and hides the bloom, so that the fine effect which I noticed on the occasion mentioned is often unfortunately destroyed. I fancy that to get the full value of this beautiful tree we require more sun than we usually enjoy in Ireland. But we have many compensations, and large bushes of *Tricuspidaria lanceolata* from 20 to 25 feet high, now covered with long pendulous red inflorescence, grow very luxuriantly in this country. *Fremontia Californica* is just beginning to open its large, clear yellow flowers, nearly three inches in diameter. It is hardy here, but seems to require a wall to show itself off to the best advantage, and it is well worthy of every attention, as it is one of the most desirable plants in cultivation. *Leptospermum bullatum*, and its varieties *Chapmanni* and *Nicholsii* are also coming into good bloom; they are quite hardy in favoured localities and should be extensively planted wherever they will grow, for they add colour and effect to the shrubbery. *Corokia macrocarpa* deserves notice, as it produces very numerous small, yellow, star-like blossoms with a conspicuous orange centre. So also

Lavatera maritima, one of the best of the Mallow Order, but not hardy everywhere. Some of the Broom family are now over; the hybrids recently introduced, as well as *Cytisus racemosus*, *C. Hildebrandtii*, *C. albus* var. *incarnatus* (white splashed with mauve), *Genista rumicica*, *G. germanica* (light green foliage), *G. virgata* and *Adenocarpus frankenioides*, are all of them handsome plants. Allied to them is *Ononis aragonensis*, which forms here a small round bush covered with golden, pea-like bloom; *O. fruticosa*, somewhat larger, and of a different habit, is pink; both are suited to rock work. During the month of June many of the Rhododendrons are at their best. *R. ledifolium* (the type, and somewhat later than its variety *flore pleno* or *narcissiflorum*), *R. Edgeworthii*, some of its hybrids, and *R. Maddeni*, are all of them white and very fragrant; *R. cinnabarinum*, orange; *R. Kewyferi*, red-orange; *R. Roylei*, red; *R. yunnanense*, white, flushed with pink and crimson markings, and others, also flowered profusely. *R. Roylei*, which is held by some to be a variety of *cinnabarinum*, is not unlike a *Lapageria* in colour and shape, and the little shade-loving and charming *Philesia barifolia* rather resembles it in flower, though very different in every other respect. I ought also to mention *Anopterus glandulosus* from Tasmania, an evergreen with large, dark, shining leaves and panicles of white flowers; its only defect seems to be that the handsome inflorescence is sometimes obscured by the foliage and does not always stand out above it.

Iris gracilipes, *I. chrysographes*, *I. Bulleyana*, *I. Wilsoni* and others are now in bloom. *I. Wattii* promised well, but the late frost in April destroyed many of the buds and only a few of them developed and showed the dainty white flowers picked out in gold. *Iriolirion Pallasii*, blue, and *Sparaxis "Fire-King"*, orange and dark brown, were very good, and so also are *Ornithogalum arabicum*, white with a glistening black-green centre; *Allium coruleum*, blue; *A. ostrowskianum*, red; some *Babianas*, blue and red, and a *Romulea*, red and yellow with long fine foliage, whose specific name I do not know. Perhaps, however, the most interesting and showy bulbs at the present moment are to be found among the *Ixias*, which seem quite hardy here; one sent me as *I. crateroides major* has been out for some years and forms a clump of brilliant red in June, very conspicuous even at a distance. *I. viridiflora* is a metallic green-like sulphate of copper with a dark centre, a remarkable shade of colour for a flower. Among other plants there are *Pentstemon gentianoides*, blue; *Calceolaria planifolia*; *Viola hosiatica*, and many *Oxalis*, most of which are all well known; one of them, *O. valdiviana*, yellow, grows freely in any fairly sunny situation. Some of the ordinary Columbine of various colours found their way into the Wild Garden here, and they spread rapidly in the grass; I encouraged them there and they add much to the adornment of rough corners.

J. R. of B.

Later Flowering Rhododendrons.

RHODODENDRON AZALEOIDES.

THIS charmingly fragrant hybrid is very welcome in the middle of June, when some of the more brilliant species have passed over. True, a good many of the

named garden varieties are still opening, but their charms are of a different kind.

Rh. azaleoides is a modest plant of four to six feet in height as a rule, in some instances probably somewhat more. It is partly evergreen, rarely being wholly without leaves. The leaves are glaucous below, green above, three to four inches long, one to two inches wide, tapered towards the base, and broadest towards the apex. The flowers are produced in clusters of from twelve to fifteen or occasionally more, and are white, irregularly suffused round the rim of the corolla with deep rosy lilac. As the flowers are very freely produced, a bush or group of bushes makes a very pleasing display which, coupled with the delightful fragrance, makes this rhododendron a desirable one, particularly for small gardens where the collection must be limited.

RHODODENDRON CALENDULACEUM.

For sheer brilliancy it would be very hard to beat this North American Azalea. It is deciduous, the leaves being from three to four inches long, from half an inch to over one inch wide, somewhat oval in outline, and with short stalks. The flowers in the specimen under notice are brilliant orange yellow, though it is said to vary in nature, some being red and others paler yellow. They are produced in terminal clusters of half-a-dozen or thereabout: the tube of the corolla is short, but the lobes are very much longer, the stamens again being very much longer and prominently exerted. To produce a brilliant display in June no more delightful plant could be desired.

LEUCOTHOE DAVIDSIE

This interesting and pretty shrub is admirably suited for association with Rhododendrons and kindred plants requiring non-calcareous soil. It is evergreen, reaching a height ultimately of three to four feet, or perhaps a little more under peculiarly favourable conditions. The dark-green leathery leaves are from an inch to over two inches in length, and an inch, or sometimes less, wide, somewhat oblong, but widest at the base. The flowers are produced in racemes arising in the axles of the terminal leaves. They are pure white, rather pendulous, and somewhat urn-shaped. A well-flowered plant of this Californian shrub is always much admired.

Herbaceous Plants.

THALICTRUM AQUILEGIFOLIUM.

For rich, deep soil this is one of the handsomest of June flowering herbaceous plants. In the herbaceous border it makes a striking display provided the soil is retentive enough, but it is a mere caricature of itself in dry soil; hence where the staple soil is too dry it should be relegated to the bog garden or some place where the necessary moisture can be ensured. Several colour varieties are obtainable—viz., mauve, pink, and white, the first two being the most ornamental. As the specific name implies, the leaves resemble those of the Columbine, the feathery inflorescences being produced well above the foliage, the total height in good soil approaching five feet and over. Seeds are freely produced and germinate readily, hence a good stock of young plants can be raised when wanted. Some very good forms are obtainable from Daisy Hill Nurseries, Newry.

ASTER FARRERI.

This new Aster is a striking addition to the early flowering section, and is likely to become popular very soon. The lower leaves are from four to five inches long, about an inch wide, and tapered to a stalk; the stem leaves are smaller and sessile. The flower heads are produced singly on stems about 15 inches in height, probably more in some cases, as position and soil so much control height. The outer florets are of a beautiful light mauve; the central disc of tubular flowers is in effect rich golden yellow—a delightful plant for the rock garden or border, making a worthy companion to *A. lichiangensis*, *A. Purdomii*, *A. yunnanensis*, lately come from China, and all of merit for the rock garden or border.

GOOD DRY WEATHER PLANTS.

During the dry windy weather of June no plant was more conspicuous in the borders than the old-fashioned single Rocket, *Hesperis matronalis*. The pure white variety is the most ornamental, and is best treated as a biennial, sowing in the open in May to be transplanted to the borders in October. The plants grow three feet high, branch considerably, flower abundantly, and are apparently indifferent to the driest weather. It is worthy of note that the double Rocket, especially the white variety, is tolerant of drought, and has seldom been finer than this year. It is perennial, and thrives if divided and replanted after flowering. The scarce double purple variety is also a plant of merit, and should be carefully tended by those fortunate enough to possess a stock.

ANCHUSA BARRELIERI.

Blue flowers seem to appeal to nearly everyone, hence the popularity of Delphiniums and the well-known *Anchusas Dropmore* and *Opal*. These, however, are tall growers, while the species under notice is of medium height, from two to three feet. Although considered somewhat aggressive, because broken pieces of root grow freely, and hence it crops occasionally where not wanted, *A. Barrelieri* is nevertheless a beautiful plant, and flowers over a long period in early summer. It is mentioned here as among plants which seem to enjoy heat and drought, for all through the warm, dry days of mid-June it has been a mass of blue flowers on high knolls of the rock garden as well as in the borders and elsewhere. Seeds are offered sometimes under the name of dwarf blue *Anchusa*, and any piece of root will grow.

Shrubs.

GENISTA TINCTORIA APPENINA.

This is a remarkably floriferous shrub, and is certainly one of the best forms of the very variable "Dyer's Woad." Of dwarf habit, it is suitable for the rock garden or front of a sunny shrubbery, where it annually makes a very charming display. The shoots are terminated by densely flowered racemes of large clear yellow flowers in such profusion as almost to hide the leaves and branches. It flowers in June and early July, and after flowering should have the branches shortened back below the flowers to induce strong growth for the following year and to keep the plant in good form.

ONONIS FRUTICOSA.

This shrubby, "Rest Harrow," has thoroughly enjoyed the hot days of mid-June, and has been literally covered with its charming pink flowers. Growing about three feet high and making a wide spreading bush, it delights in a well-drained soil and finds a suitable home on a sunny, dry bank, where it makes short annual growths which become well ripened and

ably more in good soil. The leaves are typically those of a Lilac, the young shoots dark chocolate brown, which also extends to the rachis of the flower thyse. The flowers are shell pink in the late bud stage, but open white with pink inside the tube. The inflorescences are well branched and of considerable size on vigorous examples. It, therefore, promises to be a very handsome and useful shrub.

B.



DOUBLE WHITE ROCKET
HESPERIS MATRONALIS FLORE ALBO-PLENA.

flower freely in June. In a similar position the dwarfier *Ononis rotundifolia* flourishes, the leaves being larger and rounder and the flowers also of larger size. *Ononis aragonensis*, also a dwarf shrub, makes a delightful companion to the other two pink-flowered species, the flowers in this case being bright yellow.

SYRINGA SWEGINZOWI SUPERBA.

THIS new Lilac flowers when most of the garden varieties are over, but before *Syringa japonica*, which is the latest of all. It thus links up the early and late flowerers, and is welcome for that reason as well as for its own intrinsic merits. It looks like making a shrub of at least six feet ultimately, prob-

Work among Annuals.

Staking and Tying.

By E. T. ELLIS, Weetwood, Ecclesall, Sheffield.
"A STITCH in time saves nine." There is scarcely any other operation in gardening to which this old proverb applies so much as in the staking and tying of annuals. As soon as they are large enough and have been thinned somewhat, stakes and ties should be supplied, and as these are likely to be needed very shortly, I send up a note about the operation.

I do not think all amateurs realise that the object of using flower-sticks, stakes, ties, etc., is to give support to the plants. Else why do we see such flimsy arrangements which the very wind can, if it

likes, blow down? However, I must get to the point.

Annuals in clumps, and clumps are very desirable, can be easily staked by inserting strong flower-sticks firmly in the ground at intervals close to the clump. Best, or better still, the green-twist or raffia tape supplied by all seedsmen can then be stretched round and tied firmly to each stake. But you must allow

Propagating Arabis.

BOTH the single and double Arabis may be propagated easily by inserting cuttings in June and July, so it is possible a note or two on the operation may be of service. First of all, the fresh young growths should be used, for I am told that if the older "wood" of either the Arabis or the *Alyssum saxatile* be used,



THALICTRUM AQUILEGIFOLIUM
as it grows wild on the Alps.

room. No ugly bunching must be done, for your object is to give the plants as natural a support and an appearance as possible.

Pea sticks are sometimes used for supporting annuals, and are said to look very natural. I must confess I have never tried them, so speak from hearsay.

Lines of annuals are at times supported by strong poles at intervals, and bast, string, raffia tape, green-twist or painted wire stretched along. This is a useful method. Specimen plants of certain annuals, say, for instance, the clarkia, godetia, or mignonette, need separate supports, which should be stakes of neat appearance and good strength.

much more difficulty is often experienced in attempting to strike them. Having then obtained the growths and made the cuttings properly by incision of the stem just below a joint and the subsequent removal of several leaves, prepare a bed of fine soil with the rake. This may at pleasure be in full sun or in semi-shade; it does not matter much. Then put in the cuttings with a dibber; they should be three or four inches long, and put that distance apart each way. Water each evening is desirable for some little time, and then, unless there be drought, the cuttings may be left alone. Herein, perhaps, a note of warning may be needed. The cuttings will appear in due course to shrivel up and die, but they are

not really dead. Some will turn yellow, some brown and, in a word, they will seem hopeless. But the gardener should not despair; indeed, he need not even be unhappy, as it will be found that nearly all will root well and "perk up" after a time.

E. T. E.

Cobaea scandens.

ONE of the most beautiful annual climbers certainly is *Cobaea scandens*. A native of Mexico, *Cobaea scandens* derives its name from a Spanish priest and botanist named Barnabas Cobo, who lived during the 17th century, and who spent a great deal of his life—nearly forty years—in Mexico. He wrote a large book of nearly ten volumes on the New World and its history, but this work, unfortunately, never appeared in print. About this time *Cobaea scandens* was introduced into Europe. In southern countries—for instance, Spain—the *Cobaea* does not die in winter and is a perennial. With us and in northern countries we have to treat it as an annual climber, and it can only be kept longer than one year if cultivated in a glasshouse or in pots which are placed in winter in a frost-proof place. But as *Cobaea scandens* grows in one summer extraordinarily quick and flowers very freely (old plants do not flower very well) and produces a lot of seeds, keeping it during the winter is not necessary, and lots of trouble thus may be saved.

The bell-shaped flowers of *Cobaea scandens* are wonderfully fine and of a violet, sometimes of a white, colour. These bell-shaped flowers are very large, the bell often having a length of more than 5 inches and 1½ inches across, hanging on a stalk of 12 inches. The calyx is constructed of five large green-coloured leaves enclosing the beautiful coloured petals. Outside the bell we find the pistil and the stamens, in which we see the following peculiar arrangement:—

The pistil, here placed in the centre of the flower, is surrounded by five stamens, which are very much longer. Now, to ensure that the pollen will not be lost, these stamens wrinkle and twist so that they all come to the same length as the pistil. The pollen now is not lost but is freely shed on the pistil, and fertilisation takes place. Later on, when the flower is withered (the calyx remains), we get a beautiful large egg-shaped fruit surrounded by the calyx. These fruits, divided inside into three parts (three cells) are like the flowers hanging on the plants, making a very fine show. Each of the three cells is filled with numerous large and flat seeds, one laying on the other and arranged just like tiles on a roof. As out of doors, these fruits almost never become quite ripe, we treat them so as to have a quantity of good seeds for the next year as follows: We take the best fruits with their stalks as late as possible from the plant—probably in the month of November. Now we fill a flowerpot, or something like that, with very dry sand, in which we put the fruits with their stalks in such a manner that the fruits are hanging over the edge of the pot. We place these flowerpots in a dry place, where we have a temperature of 15 degs. C. on an average. By the end of February we open the fruit, which by keeping has become very hard, and as the fleshy part of the fruit is totally desiccated during the winter we easily remove the seeds, which are then quite ripe.

Cobaea scandens is a surprising climber, reaching by means of its tendrils in one summer a length of more than 18 to 20 feet. Planted against a wall, it covers in one summer an extensive area, but it is much nicer to see it twisting round a piece of rope and making a beautiful thick and green garland covered with numerous flowers. It also grows very well against a tree, and when this is not too tall the *Cobaea* soon reaches the top of it and then makes beautiful hanging garlands. Also for covering lattice work, gates, arbours, etc., it is a very useful climber.

The plant flowers from the end of June until late into the autumn, although the greatest number of flowers appear in the month of August. We sow *Cobaea scandens* in early spring, in the month of March, in a warm frame or hot-house, and after germination we replant the young plants, each into a small pot. As soon as they want a larger size of pot we give them one, and tie the plant to a little stick. Until mid-April we keep the plants in a warm frame or house. Afterwards we begin to harden them, and by the middle of May we bring them out of doors and plant them in their place, giving a distance of 3 to 5 feet for each plant according to the area they have to cover.

Cobaea scandens grows in nearly every soil and in every place. However, it likes much sun and heat, and likes rich leaf-soil best. In summer, during warm and dry weather, we have to water the plants a good deal, otherwise in dull weather moisture is its worst enemy.

Cobaea scandens belongs to the order Polemoniaceae and a variety, *Cobaea scandens albo marginatis*, is a beautiful variegated leaved plant with white bordered leaves, and it may be said that no combination of colours can be seen so perfect and so constant as with this variety. It can be propagated by cuttings.

J. VAN DEN BERG.

Primula chionantha.

THIS magnificent species of the *nivalis* section was collected in Yunnan by Mr. Geo. Forrest at an altitude of between 12,000 and 13,000 feet; there it grows in open Alpine meadows.

The specimen illustrated was grown by Mr. H. D. M. Barton at the Bush, Antrim, and when photographed the flower spike was 20½ inches high, but it should be mentioned that it subsequently produced another tier of flowers above those seen in the photograph. The leaves were 13 inches long. The flowers are pure white and star-shaped, and in the words of Mr. Barton, remind one of *Anemone narcissiflora*.

It appears to flourish in conditions such as suit *P. denticulata*, viz., loam and humus in half shade; the leaves and spike are covered with yellow farina, which adds to the effectiveness of the whole plant.

Allotments.

TOWARDS the end of the month sow seeds of Cabbages. This is the most important month in the year to sow, as it is from seeds sown now that Cabbages for cutting are obtained next spring and summer. Select a variety, like Flower of Spring or Ellam's Early, as these kinds do not run to seed. The seeds may be sown either in drills or broadcast

in beds, and the plants will be ready to plant out in September. If very early Cabbages are desired in the spring the seeds may be sown in drills very thinly and then thinned out and allowed to mature.

POTATOES.—The early varieties will be ready for digging this month. This season, owing to the prolonged drought, the growth is not nearly so satisfactory as it might be. Early Potatoes should be lifted carefully, the skin being tender. Also, the crop is too valuable to lift carelessly and thus stab the largest tubers with the fork. The main crop and late varieties can be finally moulded up. When soiling up Potatoes the top of the ridge should be more or less flat. If the ridge is shaped like the roof of a house rain is thrown off between the rows. Up to the present the season has been so very dry that very little spraying of the crop has been done, but it should not be postponed indefinitely on account of dry weather.

WINTER GREENS.—This crop has been going through a trying period, and newly transplanted crops have required much water to enable them to survive. It has also been necessary to constantly examine the rows to fill up gaps, and all this has meant a lot of labour. However, once the plants obtain root into the land they form hard, sturdy growth, and perhaps as a compensation slugs are not troublesome and weeds are easily kept down.

SHALLOTS are ripening early this year, and when the leaves have turned completely yellow the crop should be lifted and dried. The bulbs can be then cleaned and stowed away. The same remarks apply also to Potato Onions. Seeds of White Lisbon Onions should be sown, preferably in drills about one foot apart, to produce spring Onions or Scallions, as they are called in the north. Complaints have been general that the Ailsa Craig Onions sown last autumn have in many cases all gone to seed. No doubt the dry season has had much to do with this, but the maincrop Onions should not be sown until next month, as sowing too early is a frequent cause of the plants going to seed. Those allotment holders who desire to grow very large Onions should give the plants an occasional watering with soot and manure water, or hoe in a good fertiliser, and water afterwards.

CELERY.—This is an important crop, being either used as a vegetable or a salad. To grow good Celery the land should be well manured and the plants must have plenty of water after being planted out. When grown in trenches there is nothing like good well decayed cow manure dug into the bottom of the trench, and then the best of the soil dug out should be placed on the manure and the plants put out with a trowel. Two rows in the trench is most convenient, although either one, two or three rows may be grown according to the width of the trench. During the growing season spraying the plants in the evening is helpful, and dusting with soot will do much to prevent attacks of Celery fly. Remove the side shoots as they appear and pick off those parts of the leaves attacked by maggot. I prefer the red varieties as being more hardy than the white.

TURNIPS.—A good sowing of Turnips should be made in July to obtain roots for winter use. As the ground becomes vacant after cropping with early Potatoes, no further preparation will be necessary, except levelling the soil down and making it firm.

Any of the Snowball kinds are useful for sowing, also Veitch's Red Globe is a useful hardy kind. Sow the seed in drills about fifteen inches apart. Thin out the young plants early to make good hardy plants for the winter.

SCARLET RUNNER BEANS.—These Beans are now growing rapidly and after being guided on to the supports usually look after themselves as regards staking. Crowded growths may be cut off, and in hot, dry weather to spray them over in the evening with a watering can is helpful. Pick the pods off Kidney Beans early, so that the plants may go on producing crops.

TOMATOES.—The side-shoots should be picked out of these plants growing in frames or small green-houses on the allotment. After the fruits have set manure water should be given, and at all times the plants should be watered carefully. Keep the main shoot carefully tied into position. The flowers might be dusted with a rabbit's tail to help fertilization. I consider ruthless defoliation of the leaves an unwise policy, yet it is often seen. If desired, leaves shading the fruit may be cut back, and where the foliage is crowded. Examine the tip of the shoot to see if green or white fly has obtained a hold, and if so dust with tobacco powder or other insecticide.

FLOWER BORDER.—When the seedling plants of Wallflowers are large enough they may be transplanted in rows about one foot apart and nine inches between the plants. By this means good sturdy plants are produced for planting out later in the flower bed. The seed pods of Sweet Peas should be cut off and the flowers regularly picked over. Occasional watering with manure water helps the plants growing and flowering. The White Pinks are much used for edging in small gardens, and when the plants have finished flowering shoots may be pulled off and inserted closely together in a shady spot and kept watered as found necessary. Dahlias require staking and kept tied. When earwigs are troublesome the old-fashioned method of an inverted flower pot stuffed with hay and placed on the top of the stake will be found a good way of trapping them.

G. H. O.

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to H. B. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

KITCHEN GARDEN.

SEEDLING ASPARAGUS.—Thin the young seedling Asparagus to 12 inches apart to encourage good stocky growth. Keep the beds free from weeds, and give an occasional soaking.

CARROTS.—Make another sowing of stump-rooted Carrots to supply fresh roots during the winter months. These are often preferred to Main Crop varieties. Give a dusting of soot as soon as the seedlings appear above the ground, and keep the hoe well plied between the rows.

BEET.—Where Globe Beet is esteemed, another sowing may be made to help the Main Crops. Keep the latter clean from weeds.

EARLY POTATOES.—As soon as the Early Potatoes

are ready, they should be carefully lifted and the ground prepared for Winter Spinach and Turnips. Leave the tubers in the ground for a short time to dry before placing in the storehouse.

SPRING CABBAGE.—Select an open position for making the main sowing of Flower of Spring, April or Ellam's Early Cabbage to supply the earliest plants. Draw the drills 12 inches apart, and if the ground is very dry water the drills before sowing the seed. This will hasten germination. Dust with soot as the seedlings appear above the ground.

LATE PEAS.—When the latest sowings of Peas appear above the ground, draw a little soil up to them and stake right away, and apply a good mulching of manure. Keep main crops well mulched, and as the earliest varieties become finished, clear away and prepare the ground for a winter crop.

RUNNER BEANS.—The Runner Beans are rapidly going to the top of their stakes. Keep well mulched and supplied with water. Syringe in the evening to assist them setting. Where special large Beans are required, thin the clusters to one or two. Keep all Beans picked as they become fit, thus helping to maintain a long supply.

FRENCH BEANS.—Where a few frames can be spared they should be filled with French Beans. Keep the lights off until the autumn and cold nights, growing sturdily.

CELERY.—Continue to plant out late supplies of Celery. Keep thoroughly well watered and dusted with soot twice a week. Remove any deformed leaves on the earliest plants, and tie a strand of raffia around the plant about six inches from the ground.

TOMATOES.—Keep all side-shoots pinched out, and stop the plants growing outside as soon as four trusses of fruit are set. See that they do not suffer from drought. Where one has the facilities for growing Tomatoes all the year round a sowing may be made to supply winter fruit.

TURNIPS.—Make a sowing of Veitch's Red Globe Turnip or Chirk Castle for winter supplies.

COLEWORTS.—Another sowing of this excellent vegetable should be made for supplying hard little heads during the winter.

ONIONS.—Ailsa Craig is rapidly bulbing, and will take plenty of stimulants. Be on the watch for mildew, dusting with flowers of sulphur. Shallots, Potato Onions, etc., may be lifted as soon as growth is completed.

MARROWS.—Keep the Marrows well thinned and watered. Cut the fruit before it becomes hard and tough.

WINTER GREENS.—Continue to plant out Broccoli, Kales, Savoy, and Cabbage of all descriptions as the ground becomes vacant.

SALADS.—Make frequent sowings of Lettuce, Endive, Radishes, and Mustard and Cress. Grow quickly, and keep well supplied with water.

GENERAL WORK.—Keep the Garden smart and clean, all plants staked that require it, well hoed, mulched, and watered. This is a glorious month for the vegetarian.

HARDY FRUIT GARDEN.

STRAWBERRIES.—As soon as the Strawberry runners are large enough they should be layered into 4-inch pots, using a strong compost of 3 parts loam, 1 sand, and 1 spent mushroom bed. I find stones

are to be preferred to pegs for keeping them in position. See that they do not suffer from want of water. Clean the beds as soon as the crops are gathered, lightly forking in some artificial manure between the rows to assist the making up and ripening of the crowns.

APRICOTS.—These trees will require an abundance of water at the root, and will greatly benefit from a good mulching. Expose the fruits to the sun, and keep the leading shoots tied in.

RASPBERRIES.—When the crop is finished, cut away the old fruiting canes and loosely tie in the new ones. To get them well ripened for next season's bearing, see that they do not become dry at the root. In the case of autumn fruiting varieties the number of young shoots should be reduced, tying in the best placed and strongest to supply the berries in September and October. Give a good mulching of manure.

BLACK CURRANTS.—When the Currants are picked, these bushes should be carefully pruned. Thin the shoots well, and encourage basal growths to spring up, thus keeping the trees in a young state. Always remember that Black Currants bear on the young wood and not on spurs as other Currants.

FIGS.—Stop the growth of Figs at the fifth leaf where they are making strong wood. Keep the leaders trained in, and keep the growths very thin to enable the sun to reach the fruit. Keep the border well supplied with water, and where there are heavy crops a little artificial manure will greatly assist the trees.

PEACHES AND NECTARINES.—Trees that are making good clean growth will require to be thinly trained and the fruit thinned, allowing one fruit to each foot run. Keep well supplied with water at the roots, and the trees well syringed during hot weather in the evening. Earliest fruits that have commenced the second swelling should be exposed to the sun by placing short pieces of lath behind each fruit.

CHERRIES.—As the earliest trees are cleared of their fruit, take away the nets and give a thorough cleansing with some approved insecticide. Thin daily syringe with soft water. See that the borders are not dry. Morellos will require netting immediately they show colour.

TRAINING YOUNG TREES.—Young trees of almost all fruits will require attention, training in the leaders at the correct distance (which is, that if they went on for an unending distance they would never meet), and train at an angle of 45 degrees. Pinch any strong growths, and endeavour to keep the trees well balanced with fruiting spurs from base to tips.

THINNING APPLES AND PEARS.—Do not delay in thinning these fruits where they are set too thickly. A tree will generally shed what it cannot finish, but it is wise to take more away and thus enable the buds to form for next season. See that the trees are kept clean and not allowed to suffer from want of water.

GENERAL WORK.—Keep all fruit quarters clean and well hoed. Mulch all trees possible, and guard against drought. Soil must now be got ready for autumn planting, filling up all stocks.

FLOWER GARDEN AND PLEASURE GROUNDS.

SCUMMER BEDDING.—Keep the plants well supplied with water, and all trailing plants pegged down. See that all supports are secure and the plants kept

growing. Cuttings for next season should be rooted of Zonals, Streptosolen, Mdm. de Bussy, Heliotropes, Fuchsias, etc. Keep the beds well edged and obtain a smart appearance.

SPRING BEDDING.—Prick out Wallflowers, Forget-me-nots, &c., in showery weather, and keep the plantations clean and free from weeds. Bulbs, after being well ripened, may be stored in a vermin-proof shed. Grass may now be mown where bulbs are naturalised.

SWEET PEAS.—Keep the Sweet Peas growing and all flowers well picked off. Keep supplied with soft water, and spray overhead with clear soot water on hot days.

CARNATIONS.—Layer the Carnations as the flowers go over. Keep watered for several weeks should the weather prove hot and dry.

CLEMATIS.—Do not allow the roots of the Clematis to become dry. Keep the growths constantly tied in position. Allow *C. montana* to grow over trunks of trees as naturally as possible.

ROSES, RAMBLING.—This type of Rose requires constant attention with tying in the young growths. Keep well supplied with water, occasionally giving manurial assistance in some form or other. Dorothy Demison, D. Perkins, Lady Gay, Excelsior, and Leuchstern are good examples.

RESERVE BORDERS.—Any surplus plants may be placed in these borders either for making good any losses or for cutting purposes. This is much the best plan for supplying cut flowers than cutting from the permanent borders grown for effect.

HYPERICUM.—These useful plants may be used for covering unsightly banks and other sites. St. John's Wort is very gay under the trees at the present time. *H. hircunum*, *H. galiodes*, *H. Kalmianum* and *H. patulum* are other excellent varieties.

DAHLIAS.—Dahlias will require constant tying and thinning. Keep well supplied with water during hot weather, and trap all earwigs with a 4-inch pot filled with hay placed on a stake.

BOX EDGINGS.—If Box edgings are now trimmed they will soon regain their bright green appearance. Do this in showery weather when possible.

HERBACEOUS BORDERS.—Keep all plants neatly staked and tied. By this time the ground is covered with the various growths, but they will require constant watering and tying. Keep all seed pods picked off.

FLOWERING SHRUBS.—Flowering shrubs that are just finishing their flowering season will require pruning and old Lilac flowers cut away. See that none are allowed to suffer from drought.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

JULY is one of the hottest months of the year and usually accompanied with a severe drought. To avoid a check to all young vegetables, timely attention with a supply of water and a free use of the hoe will keep growth active.

ASPARAGUS.—Now that cutting is finished for the season, give the beds a mulching of rotten manure,

followed with a thorough watering. Very little more attention will be required apart from the removal of weeds and giving support to the stems.

BROCCOLI.—Plant out late varieties as the ground becomes vacant, also Cauldlowers for autumn cutting.

CABBAGE, SAVOYS, and KALE may still be put out for late use. About the 20th of the month a small sowing of a reliable variety may be made for early



PRIMULA CHIONANTHA.

See p. 80.

spring cutting. I would recommend Early Harbinger, Flower of Spring, or Sutton's April for this purpose. Ten days later a further sowing may be made.

CARROTS.—Sow a few drills of a stump-rooted variety for a supply of young roots. These may be left in the ground and pulled as required for use.

CELERY.—Complete the planting of late batches. Well water the trenches before and after planting if the soil is dry.

FRENCH BEANS.—Make a sowing early in the month, and towards the end a final sowing may be made on an early border. These may require some protection in the autumn to finish the crop.

LETTUCE.—Sow on a cool border during this month, keeping the ground well stirred with the hoe to promote quick growth.

PARSLEY.—Make a sowing this month for a winter supply. It takes a long time to germinate unless well watered during dry weather.

PEAS.—There is still time to make a final sowing early in the month. Choose an early variety for the purpose, such as *Excelsior* or *Little Marvel*. These are both dwarf kinds and yield a good crop. If water is required for earlier sowings, give a thorough soaking and apply a mulch at once.

POTATOES.—Early varieties should be lifted as soon as the haulm ripens. Tubers required for seed may be left on the ground for a day or two to green; afterwards store in a cool place, and on a wet day can be boxed up for sprouting. Plant up the vacated ground again with *Broccoli* or winter greens. Spray maincrops during fine weather before blight makes an appearance.

TOMATOES.—Attend to the removal of the side growths when quite small on outdoor plants. Pinch out the points of the main stems when about four trusses of fruit are set. Cut back pieces of the foliage when shading the fruit to allow the sun to reach them.

VEGETABLE MARROWS.—To hasten the swelling of the fruit, pinch the main stems and the resulting laterals at the first joint beyond the fruit; feed with liquid manure even if the weather is showery.

This is a favourable time to apply weedkiller to garden walks, taking care not to let it touch line edgings. The best time is in the evenings or on dull days, with prospects of a dry two days afterwards.

THE FRUIT GARDEN.

PEACHES AND NECTARINES.—Complete the thinning of the fruits as soon as stoning is over. A space of nine to twelve inches is considered a good crop, but the grower will be guided by the health of the trees. Regulate and tie in the young wood, exposing the fruit to all sunlight possible. Nets should be brought into use when colouring begins.

STRAWBERRIES.—The preparation of the ground for new plantations should be taken in hand as soon as convenient. It is a general practice to trench ground for this crop during the previous winter and growing an early crop of potatoes or peas which will be cleared off this month. Thoroughly dig the ground, adding well-rotted manure, and allow it to settle for a week or two. If runners were not layered as advised last month get it done at once to have well-rooted plants ready to put out in August. Runners intended for forcing should be got into their fruiting pots as soon as ready.

SUMMER PRUNING.—Where the pinching of the young shoots was neglected early in the season, a considerable amount of breastwood will be on the trees shading the fruit from the sun. Cut this back to the fourth leaf with a view to plumping up the basal buds to form fruit spurs, also allowing a free circulation of air through the branches. When spurs are overcrowded these may be thinned out at the present time. Guard against the attack of insect pests with a timely spray. The season has been exceptionally dry in this locality, and watering has caused a lot of labour. Newly-planted trees, especially those growing against walls, must be well soaked at the roots, applying a mulch afterwards. Syringe the foliage to check red spider.

THE PLEASURE GROUNDS.

PLANTS put out in the flower-beds last month are making some headway, gradually filling up the space allotted to them. Some of these, such as *Ivy Geraniums*, *Petunias*, *Heliotropes*, and *Verbenas* will require pegging down to cover the ground. Look over the beds frequently, and remove all spent flowers, as these, if left, soon mar the beauty of the subjects apart from exhausting the plant's energies developing seed-pods. *Border Carnations* may now be layered if the grass is sufficiently long. Either mix up a light sandy compost for layering in, or fork up the soil around the plants and layer in that. Less watering will be required by the latter method.

Increase the stock of *Pinks* from pipings inserted in sandy soil under a frame or handlights shading from the sun till rooted.

Put stakes to the border *Chrysanthemums* before the heads get heavy, slinging up the side branches as they grow. A light dressing of artificial manure hoed in after the buds are set will be beneficial. *Roses* of all kinds will now be giving a fine display, and will repay all the attention bestowed on them. As the blooms go apart pick them off, cutting the shoots back after flowering, when new growth will soon break away and flower later. Keep the soil stirred with the hoe, and if mildew makes an appearance spray at once. Dryness at the roots is a frequent cause of mildew.

Sweet Peas must be picked almost daily to keep the plants free of seedpods, as if these are allowed to grow the flowers get small and stems short and are useless for decoration.

Transplant *Wallflowers*, *Myosotis*, and other plants sown for spring bedding before they get drawn in the seed-bed.

Royal Horticultural Society of Ireland.

The monthly meeting of the Council was held at the offices, 5 Molesworth Street, Dublin, on the 10th ult., Sir John Ross of Bladensburg, K.C.B., presiding. A letter was read from Dr. Harris, LL.D., tendering the resignation of his seat on the Council, owing to his leaving Ireland, which was accepted with regret, and the thanks of the Council were unanimously accorded to Dr. Harris for his helpfulness to the Society over many years. Correspondence was dealt with concerning bands, and tea catering for the summer show and judges were nominated. A vote of thanks was accorded to Captain S. Anketell Jones for the receipt of a handsome silver challenge cup, a special class for it being left in the hands of the Schedule Committee. The Schedule Committee was instructed to draft the schedule for a show of hardy fruit to be held in October. The following new members were elected:—Mrs. Cullingworth, 28 Sandymount Road, Dublin; Mr. Basil Thompson, Stradbrook House, Blackrock; Mrs. Peard, Ashtown House, Phoenix Park; Mr. T. Gingles, Market Street, Kells; and Dr. C. Preston Ball, St. Nessan's, Pembroke Road, Dublin. A cultural Certificate of Merit was awarded, with the thanks of the Council, to Mr. W. Barrett, Firmont, Sallins, for annuals and very fine Sweet Peas exhibited at the meeting.

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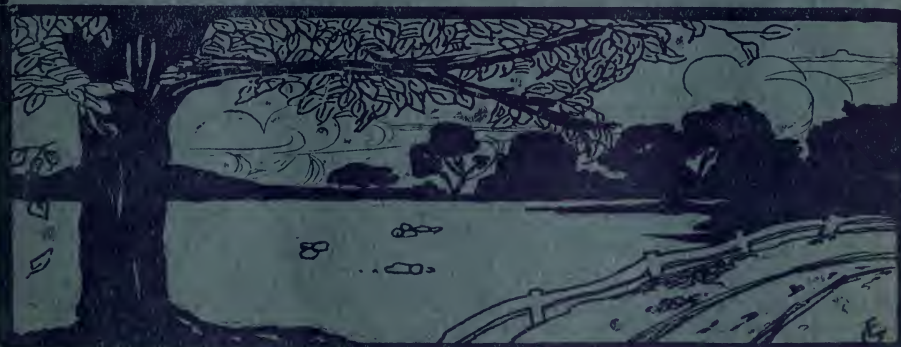
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GARDEN

Trees in Le Jardin des Plantes.

By JOHN PATERSON.



LEFT Glasgow on the 10th of May, 1921, to pay a few visits to the Jardin des Plantes in Paris, and, after a day spent at Kew, on the way, I reached the famous gardens on the 13th. My first impression was disappointing. Owing to fences and walls not having had a pot of paint expended on them for a very long period, there was a general appearance of neglect about the place which was depressing. This condition of affairs is set down to the war, but there is more to it than that. A sentence from Robinson's "The Parks, Promenades, and Gardens of Paris" (1869), throws some light on the appearance of the celebrated gardens to-day. He writes: "One ball at the Hôtel de Ville during the festivities of 1867 cost considerably over £30,000, while the poor

Jardin des Plantes gets from the State not more than one-third of that sum to exist upon for a whole year."

I possess a big, lavishly-illustrated French work on the Garden, published in Paris in 1842, and the numerous woodcuts and other evidences therein show the Gardens to have been, at that period, a fashionable resort. It seems to have fallen entirely out of fashionable favour now, but remains a highly popular peoples' park. It retains, happily, great attractions for a student, though the conservatories were closed to the public during the war, and are not yet open. The systematic beds, though extensive and well-arranged, and the plants adequately named, were in a backward state, and I found it more profitable, at the time of my visit, to concentrate on the arboreal vegetation in which I was, besides, much interested. An autobus has as its destination the Jardin des Plantes, and lands one at the memorial fountain to Cuvier, opposite one of the entrances. The first tree to attract me here, and near the statue to Chevreul, the chemist, was *Prunus cerasifera* (Ehchard) var. *Pissardi*, and the first example introduced from Persia by Pissard. It is a fine tree in splendid condition. *Pterocarya stenocarpa*, near by, is a beautiful foliage tree.

When I first saw, a little way off, flowers of *Paulownia imperialis* among the green grass, I thought of *Luthraea claudestina*, but was quickly undeceived. The Paulownia is a great tree in Paris, and I was lucky to see one about forty

feet high, at the main entrance to Longchamps Race-course, in full flower, on the 19th of May. By that time I had seen hundreds of trees of this series, but all nearly past flowering. The puce-coloured caducous flowers, two inches long, with curious short, hairy, brown calyces, are most eagerly sought for by children in public places, and were, I was told, strung into chains as our children do with daisies. With great pyramidal puce spikes at the ends of the branches, before the leaves are out, Paulownia is, indeed, an imperial tree. If we Scottish people have an Order of the Thistle, it is not surprising that the Japs have an Order of Paulownia. In Paris it is a street tree (north side of Boulevard Bonne Nouvelle), and is used as a shelter tree in squares where markets of garden produce are held.

Le Jardin des Plantes possesses the oldest Paulownia in Europe, put in the open from seed brought to the Museum in 1834 by the Victe. Fritz de Ussy. It has attained a circumference of trunk of about nine feet, but has had to be severely cut down, only two remaining branches carrying on now. Something similar must be said of the *Robinia*, now twelve feet in circumference of trunk, planted at the time of the foundation of the Garden in 1635 by Vespasien Robin. "From him," as the story goes, "came the seeds which have served to naturalise in France one of the most elegant and useful trees of our country"; to wit, *Robinia Pseudacacia*. Fifty feet high, with pale rose flowers, I thought *R. Pseudacacia*, var. *decaisneana*, a fine thing.

The summer sun that glows over Paris, and makes it to many people a nightmare at that season, enables many plants to present themselves in aspects quite unattainable here. But Paris lacks our moisture, and the mildness of western winters by the sea, and the attempts to grow conifers, for instance, are pitiable; but there is a fine stick of *Pinus Laricio Poir.*, planted by Laurent de Jussieu in 1773, about nine feet in circumference. It is a well-grown tree, with wide spreading branches, and though now manifestly decaying is still striking in appearance. It recalled the fine example of *P. Laricio*, var. *Pallasiana*, at Glasnevin, but their respective situations differ much.

On one side of the big mound, in the labyrinth, where several paths diverge, still exists the Cedar of Lebanon, which Bernard de Jussieu brought with him from England in 1734, in his hat, if tradition is to be believed. It has been a noble tree, has a clean trunk thirteen feet or so in

circumference, with a fine top still, which combines effectively with, and overtops, the surrounding vegetation, but the lower branches have fallen away, and it is now clearly past its best. The writer of one of the sections in the big work on "Le Jardin des Plantes," mentioned above, is lyrical in its praises, thus:—"Hail! venerable tree! . . . Cedar of Mount Lebanon, Hail!—our grandparents saw thee planted, thou wilt see us die! The children of our children will come to play under thy shade," &c., which is all literally true, and the tree apostrophised will no doubt, see a generation or two out yet. Maples were not remarkable, with some exceptions. Nothing in its way at the time of my visit looked better than the Great Maple (*Acer Pseudo-platanus*), but the Montpellier Maple (*A. nonpessulanum*) with a trunk 6 feet 9 inches round, was notable, though I think we have one on the Gareloch, in the Clyde area, as good. However, *A. creticum* was new to me, and I was pleased to see two old ones, branched from below, stems bent in some cases, the trees about 25 feet high, and the thickest trunk about six feet round at the thickest part. The angle at which the leaf leaves the petiole is much more acute in the Montpellier than in the Cretan Maple, in which the sides of the leaf rise up straighter. It is a simple, and appears an infallible, test of the difference between these two Maples, which come closer to each other than either does to our native *A. campestre*.

The sun-loving White Mulberry (*Morus alba*) does not do so well with us as its black brother, though I have seen many white fruits shed by one in the Botanic Gardens at Oxford. It is a big tree in Paris, and was in profuse flower, the paths littered with its catkins in May. One I saw I estimated to be 45 feet high, with a trunk 4 feet 6 inches in circumference. *M. alba*, var. *Morethiana* (var. *Macrophylla*, Lodd?) was of big size, 2 feet 6 inches diameter of trunk. The species seems to have reached Europe (Constantinople) from China through two Greek missionaries bringing it in the sixth century.

I did not notice the first European example of *Sophora japonica*, if it is still to be seen in the "Jardin," but saw many fine trees of this species here and elsewhere. As we know, even in this country this can be a lovely tree in flower, but I had no idea that it would be so light and lovely when its foliage was newly out. I think in this state it was the most elegant thing I saw during my sojourn. P. d'Incarville sent roots to B. de Jussieu in 1747, and it first bore flowers in Paris in 1779. I did not see *S. tetraptera*, which must, therefore, meantime, remain in my memory one of the things I am grateful to Glasnevin for.

Sterculia platanifolia, perhaps 30 feet high, coming into leaf, all leaves pointing earthwards, pale yellow in colour, was an attractive sight in the systematic beds.

Parrotia persica, seldom seen in Scottish gardens, though I believe it is fine at Barochan, Renfrewshire, was represented by a big bush-tree, several large, thick trunks (12 to 15 inches in diameter) coming up together.

Nettle Trees were a surprise to me. *Celtis australis*, with a clean trunk of 10 feet and rising to 40 feet, trunk a foot in diameter. *C. Tournnefortii*, leaves in many cases much split back, but this did not apply to the terminal ones. *C.*

Davidiana and the common one *C. occidentale*, 4 feet 6 inches in circumference of trunk. *Cedrela sinensis* was a wide-spreading tree, 15 inches through the trunk, unbranched for 10 feet, with tufts of long imparipinnate yellow-green leaves towards the ends of the branches.

Cercus (*Fraxinus*) *chinensis* surprised me. It was a very rough-barked tree, for stretches of its trunk uniformly knuckled, 60 feet high. It was a delightful experience to look up through it to the sky. It was well leafed, but the shoots at many places presented a quite remarkable and unique cobwebby wheel-like appearance, these wheel-like formations a foot across, but with tricky sprays going free on the outside of the wheels. Its narrow leaves help to give the effect.

Cercus Sieboldii is largely used, but I have not found it in my literature. *Carya amara*, 60 feet high, was very striking, loaded with its narrow catkins, each several inches long. *Citrus trifoliata* (+ *Egle sepiaria*), with fine white flowers $\frac{1}{2}$ to 2 inches across, was a great bush. *Tilia argentea* and Bolle's Poplar are popular trees in Paris. Judas Trees (*Cercis*) were practically past flowering. *Broussonetia papyrifera*, up to 35 to 40 feet and a foot through the trunk, was common. Yellow-green catkins were a couple of inches long on the male trees.

Diospyros Lotus was 55 feet high and good. D. "Schi Tse" (?) China had fine foliage which had suffered from climatic conditions, as had also the young foliage of a conspicuously wide-spreading tree, *Quercus castaneaefolia*.

One of the first trees to draw my attention, from a bit off, was what they call "Olivier de Bohême," *Elaeagnus angustifolia*, with narrow-leaved resplendently white foliage, a willow-like small tree. Also new to me was *Sorbaria assurgens*, with long serrate imparipinnate foliage. It was ten feet high. *Gleditsia ferox*, as they name it (*G. sinensis*), with great spines, was a tree with a trunk four and a half feet round. *Ginkgo biloba* was well grown, characteristic, and effectively placed. *Spartium junceum*, with a stem 1 foot $10\frac{1}{2}$ inches round, surprised me, but might not surprise readers of this journal. *Corynocarpus laurigata*, from New Zealand, in a pot outside, stood $5\frac{1}{2}$ feet high, and has Magnolia-like foliage. I missed, by the way, familiar New Zealand friends like *Grishimia*, *Olearias*, *Pittosporums*, &c., though, before I left, *P. tenuifolium* was put out of the cool house in a huge box-tub, but, judged by Irish, or West of Scotland, examples, it was indifferent.

It must be a century-old practice at least, in Paris, this putting out of very many plants in tubs. *Xerium Oleander*, *Chamaecrops humilis*, *Phoenix canariensis* being thus extensively used, and the last is very effective decoratively. Outside also were *Phellodendron amurense*, 3 feet in circumference of trunk, coming into leaf, and *P. japonicum*, Max. var. *Lavellii* Dode. *Mactura aurantica*, 2 feet 3 inches in girth of trunk, was just coming into leaf. *Liquidambar orientalis*, 3 feet 9 inches in circumference of trunk, decapitated at 15 feet, and carrying on from that point, was new to me.

The Pomegranate (*Punica granatum*), in shining brown-red opening foliage, with large, smooth flower-buds, was very striking in the sunshine. *P. granatum nana* was also seen.

Rhamnus infectoria, said by Bean to be a shrub up to 7 feet high, was here more than double

that height, and *R. alaternus*, var. *rotundifolius*, with stalked flowers and bees busy at them, was 18 feet high.

Crataegus Korolkowi, I thought very fine. The fruit was formed, and this, and its large leaves, produced a grape-vine-like effect which I thought handsome. The Apricot (*Prunus Armeniaca*) was about 35 feet high and 3 feet in girth of trunk.

For general purposes my visit was too early, but it was well enough timed for seeing many trees in an interesting condition.

The Citrange.

THE Citrange is a hybrid shrub raised in America by crossing the hardy *Citrus trifoliata* with the cultivated orange *Citrus aurantium*.

The characters of the hybrid are wonderfully

it is said, to raise a hardier race of oranges so as to extend the geographical area of cultivation, and make it possible to grow oranges farther north.

By artificially pollinating the flowers a small orange has been produced at Glasnevin, but it fell off in late autumn while still hard and green. The chances of growing oranges (out of doors) in Ireland are rather remote.

B.

Tritomas :

MONITORS OF THE WANING YEAR.

WHEN the warm September days give place to cooler nights; when the summer flowers begin to fade and fall, there are to be found amongst our hardy garden plants some that bring rich and intense colourings as their blooms unfold. Conspicuous in this category are Tritomas,



Photo. by]

CITRUS AURANTIUM.

CITRANGE.

[Miss E. V. Miller

ÆGLE SEPIARIA.

intermediate, more especially in the leaves. The accompanying illustration shows well the variation in the leaves from the entire leaf of *C. aurantium* to the trifoliate leaf of *C. trifoliata*.

While *C. trifoliata* is deciduous, but with green branches, *C. aurantium*, which, of course, is not hardy, is evergreen; the Citrange is practically evergreen on a wall, but loses the older leaves in spring.

In Captain Riall's garden at Bray the hybrid is hardy in the open, and was lately in free flower there.

The specimens from which the illustration was prepared were grown in the Royal Botanic Gardens, Glasnevin, where *C. trifoliata* is quite hardy, the hybrid is hardy grown against a wall, and the *C. aurantium* is, of course, grown in a greenhouse.

The interest in the hybrid lies in the fact that it may easily prove hardy enough to grow as an open shrub in many parts of Ireland, where it would doubtless be valued for its sweet-scented flowers in June and July.

The object of making the cross in America was,

which, amid faint suffusions on creeper and on tree, appear sentinel-like, giving to the borders a new splendour, and an added glory in the waning of the year. They are known to some as Kniphofias, or Torch Lilies. To a far greater number, perhaps, they are more readily recognised under the familiar name of Red Hot Poker. When the spikes reveal themselves in tones of vermilion, and in scarlet and yellow, we think that Torch Lily is appropriate, as they are veritable flames of colour in these shortening days. Their very presence is an indication that autumn stands like a waiting guest at the door; nay, has come, indeed, and is even now upon the threshold. It is in signs like these that Nature writes her story. And yet, 'tis true, she is a kindly visitor. As yet, her presence is but little felt, for some of our trees are garbed in all the loveliness of their summer green. There is still a soft consenting atmosphere making the garden a pleasant place in which to linger in days that are fair. Presently, she will touch with her icy fingers the trees and hedgerows, giving to the

leaves another beauty with her magic wand. By-and-by she will paint the countryside in more enchanting colours still, that each nip of frost will but intensify, until there comes a night, colder than the rest, when leaves will flutter to the ground, and then there will be seen—

“The wonder of the falling tongues of flame.”

But that is yet to be, as autumn may be genial, kind and good for a time; still it has to be said we stand at the season's gateway, and pause amid the flowers that keep us company. For resplendent dress, there is none to surpass the richness of Tritomas. What a time we have grown them, as we look back across the years, and how seldom, if ever, they have disappointed us! Their culture, too, how simple; how few their requirements, and how rarely they have entailed removal! The Dahlia is but a fleeting, tender visitor in comparison, though appearing in wondrous forms and tints. Michaelmas Daisies, albeit prodigal, with their blossoms, cannot compete in brilliancy with the flaming spikes of Tritomas, that lighten the sombrest corner, and then, like a tired child, go to rest.

It is, we think, because they are easy to grow, and so accommodating, that many folk look to them year by year, and regard them as true “partners in the glory of the garden” in these later days.

Conditions of Success.—And to have Tritomas in all their beauty, one is not bound down by exacting conditions; in fact, their culture is so simple that all may grow them, if they are prepared to give them a good start and a sunny position, with a thought to drainage. More than this they do not ask of us, as they will go for years without the necessity for taking up and dividing. They are amongst the few plants about which one is correct in saying that “they improve with keep,” as the chief thing one need trouble about is to afford them some protection in winter by covering the crowns with leaves or ashes or strawy manure, giving them in the spring a dressing of rotted dung. Spring is the best time also to plant them. A good sandy loam suits them to perfection.

Varieties.—There are many sorts amongst Tritomas that are so vivid in colouring that to appreciate them fully needs an intervening space, and if planted not far away from a shrub or wall over which climbing plants run, the spikes show to the best advantage. Such is *T. Urraria*, one of the oldest and best, met with frequently in country gardens in flaming colour. *U. nobilis*, with orange red spikes, is tall and imposing, often 6 to 8 feet in height. *Nelsoni* is comparatively dwarf, with reddish crimson spikes. *Egypt*, tall, of a rich amber colour. *Leda*, blooms early, of a compact habit, spikes of coral red with orange shading, a very attractive sort; *breviflora* is a late flowering sort, of slender growth, with pure yellow spikes. *Luchesis*, of a rich apricot colour, distinct and handsome.

This is only a short list of some of the members of this very charming family of hardy plants, and though most of them are just now in the prime of their beauty, very often one may have glimpses of them far on into October in a mild autumn, when many other plants have ceased to bloom. If you possess Tritomas, you may go into the garden some dull October day and find a few belated spikes amid others showing points of vermilion and yellow, standing almost alone, and if you do not express it in so many words, you

think they share the honours with the few late lingering Roses on the wall, or the leaves of the Virginia Creeper, here brown and amber, there deepening into crimson carmine ere they fall—a richness that is carried to the last

MERCASTON.

Notes from Rostrevor.

On the last occasion when we suffered from drought, in the summer of 1919, I observed that some plants (for instance, *Dacrydium Franklini*) which remained green and fresh during its continuance, very soon turned brown directly the rain came down. If we may judge from this, I think it is not unlikely that the full effects of the present drought will only become apparent when it is over, and we may be troubled with more losses than we now anticipate; though we must hope that at least some of the things that look moribund will soon recover when we get back again into normal weather conditions. Yet, the immediate consequence of a very hot sun, combined with the absence of moisture, is very noticeable on some of the flowers, which perished as soon as they opened and before we could even see them. This happened with three *Lomatias* growing here, viz.:—with *L. ferruginea* and *L. tinctoria*, and, to a lesser extent, with *L. longifolia*; while the large majority of plants show their bloom for a far shorter time than is usually the case—notably *Carmichaelia odorata*, *Notospartium Carmichaelia*, some of the *Olearias*, *Jasminum primulinum*, *Kolkwitzia amabilis*, *Robinia decussata* (a pink variety of *R. pseudacacia*) and a fine bush of *Prostanthera lasianthus* some 16 feet high. *Olearia insignis*, however, a beautiful species well suited to rock work has not suffered much in this respect; nor have its allies, *Senecio Buchananii*, *S. Hectori*, *S. leucostachys* and *S. lobatus*—the last-named, from Madiera, is half-hardy, and forms a brilliant combination of green and yellow. *S. rotundifolius*, which grows in shelter without wall protection, has flowered here for the first time; it is a handsome foliage plant, and is now some ten feet high, and as much through.

Callistemon lanceolatus, of the Myrtle Order, was an interesting object as long as its pale crimson bottle brushes lasted; but the white *C. Sieberi*, and the dark red *C. rigidus*, having displayed bloom last year were not equally agreeable this season. I think the genus is probably more hardy than is sometimes supposed, and might be tried in mild districts more often than appears to be the case. *Frejia selkirkiana*, of the same order, is now exhibiting its bright carmine stamens set like stiff paint brushes upon white horizontal petals: it is a very desirable evergreen, coming from Brazil, and is here growing against a wall. *Magnolia parviflora* bloomed sparsely, *M. hypoleuca* rather better, and the evergreen *M. Delavayi*, from Yunnan, is now developing its thick, fleshy and heavily scented flowers. *Abelia floribunda*, *A. longituba*, *Convolvulus Cuvorum*, *C. mauritanicus*, *C. turgurum* (a handsome trailing shrub with small leaves that rambles over rocks, white), *Gaya Lyallii*, the various species of *Cistus*, and of *Indigofera*, are nearly as good as ever, and do not seem to mind the drought very much; so also the following which are suited to a small rock garden:—*Malacostemum latericum* (orange, from Uruguay), *Nierembergia frutescens* (white, centre mauve, from Chile), *Odontospermum maritimum* (bright gold, from South Europe). *Pentstemon hetero-*

phylla (clear blue tipped with pink, from California), and *Verbena chamaedryfolia* (brilliant, almost dazzling, crimson, a small trailing subshrub from Buenos Aires). Among the Rhododendrons that flowered during the past month are *Rh. arborescens* (scented), *Rh. camelliaeflorum* (Sikkim), *Rh. Jenkinsii* (a variety of *Rh. Maddeni*, fragrant like the type, but later to bloom and more flushed with rose), *Rh. Micranthum* (China), *Rh. Souliei* (rose pink, from China), and *Rh. Ungernii* (from the Caucasus, with the unusual habit of making its growth before expanding its white trusses). The weather affected these plants perhaps more than those of the other genera, and they were none of them at their best.

Curiously enough, *Iris laevigata* showed more flower than is usually the case here, and if there had

each emerging from a white calyx and on a white pedicel. I never found *Sphaeralcea munroana* easy to acclimatise, but it has now survived the winter, and is trailing over a rock with red flowers. *Echinium vulgare* is a native plant, blue and well suited to become established in the rougher places of the wild garden.

J. R. OF B.

Longevity in Rock Plants.

THE July number of IRISH GARDENING has reached me while I am away from home, but, having regard to the fact that the original article on the above subject, from the pen of Mr. J. Harper Scaife, appeared as long ago as May, 1921, I think it is better to comply with Mr. E. B. Anderson's



LEWISIA HOMELLI in the moraine at Mount Usher, Rathnew, Co. Wicklow

been a normal rainfall there would have been a fine and lasting display of colour; on the other hand, *I. fulva*, which always blooms, gave no sign of it this season. Two *Watsonias* (one white II. *Meriana alba*, the other buff) produced large spikes, but the flower died off more quickly than in ordinary years. The same may be said of *Arthropodium circhatum*, *Bulbinella Hookeri*, *Kniphofia caulescens*, *Pancratium maritimum*, and even to some extent of the first show of *Dierama pulcherrimum*. Nor was *Lilium giganteum* up to the mark, for it only grew little more than half its proper height; though *L. Hansonii*, *L. Humboldtii*, *L. monodelphum zoritzianum*, and some others, seem to be nearly as good as usual. *Allium gyanense*, the various *Brodiaeas*, *Dianella tasmanica*, and *Eremurus Bungei* did not appear to be much affected by the weather; while *Mesembryanthemum Brownii* (red orange) and *M. scapigerum* (bright yellow), as might be expected, luxuriated in the sun. *Cotyledon furinosa* has been outside for many years, but only for the first time has it produced a spike of numerous small dull yellow flowerets,

request for my personal experiences (in the July number of IRISH GARDENING, p. viii) without waiting until I return. A personal examination of my plants would, no doubt, have supplied me with further examples of longevity, but, in any case, the subject is too vast to be dealt with in the confined space of a magazine article, and I can do little more than add a few examples to those already mentioned. I much regret that I have kept no regular records of individual plants, as, owing to circumstances which I cannot avoid, plants in my garden once planted have practically to look after themselves; they are kept fairly free from weeds, but get no artificial watering, and are rarely top dressed or divided up. I have a climate usually mild and wet in winter, with occasional severe frosts, followed by dry springs, with bright sun, drying winds and slight night frost, and it is in the early spring that my losses occur. Once the spring growth is made the plants stand the summer heat, and, by aid of careful drainage, the winter rains; but in the dry spring months the *Kabschia* *Sarifrages* brown in patches and the whole garden

suffers. In these circumstances it is evident that my plants are compelled to exist in what may be termed such "natural conditions" as are possible in an alien soil and climate, and, therefore, their history should prove of greater use to the average rock gardener than the history of plants more favourably placed, which receive that extra care and attention all plant lovers would like to bestow upon them if circumstances permitted.

My present rock garden was commenced about 1906, and the collection of plants increased steadily up to 1911. At that period the two largest genera were Saxifraga and Campanula. I had nearly 300 species of the former, but alas many have since departed, and have not been replaced. Other genera were fairly well represented, and a few additions were made in 1912 and 1913, but since 1914, with the exception of filling up some of the blank spaces with spare plants from pots, little has been done except to keep the surviving plants weeded, and of the survivors it may be said that some of them date from 1906, and the majority of them have existed from between that year and 1911.

In dealing with the survivors I am at once faced with the difficulty of selection. There are plants like *Linarias Arenarias*, *Cerastium*, *Antennarias*, etc., which are so indestructible that they become a nuisance. Again, there are plants like *Morisia*, which is a weed in a neighbour's garden, and steadily goes back every time it is planted out in mine; and the question of "variety" is often a matter of opinion upon which nurserymen's catalogues frequently differ. Mr. Anderson and your readers must forgive me, therefore, if I omit or pass lightly by species which they think are of more interest or importance than others which I may mention more particularly:—

Acantholimon do well in moraine, and I have old clumps of *A. acrosum*, *A. crenatum*, *A. lepturidoides* and *A. glumaceum*.

Ethionemas are said to die away unless frequently cut back, but a plant I got from Bees as *A. antitauris* survives uncared for. *A. warleyensis* is comparatively new, but seems very vigorous.

Andromeda tetragona and *A. Menziesii* cause no trouble in shady peat. *A. fastigiata* I had once and promptly lost.

Androsaces.—Only the *Chumbyi lanuginosa* types survive. *A. villosa* is shorter-lived, but seeds itself freely in moraine.

Anemones, like *alpina*, *Pulsatilla* and *blanda*, live and increase. *A. rupicola*, about 6-7 years old, is increasing in loose peat.

Aquilegas.—*A. fabellata* and *A. formosa* live and seed themselves uncrossed. Other species are short-lived.

Asters as a race live as long as the slugs will permit. *A. Butangensis* is a very fine clump, sprouting from an old wall, about 6 years old.

Campanulas, as a rule, are long lived. Some particularly old clumps of *C. abietina*, *collina*, *nitida*, *Raddiana*, *pulla* and *pullobides*, *Raineri*, *sarmatica* and *Tomanianiana*. *C. arctica* (*acutangula*) is newer, and is also growing strong. I am interested to see in Mr. Scaife's article that it is evergreen with him, with me it dies down in July, immediately after flowering, and reappears about end of August.

Dianthus.—All the "mat" type, like *D. deltoidea* are long-lived; the "tap root" type, like *D. microlepis* are pursued by ants and wireworm but I have one plant of *D. microlepis* at least 6 years old. *D. neglectus* makes large mats. Pinks, like *D. cinnabarinus* are very short-lived.

Erinacea pungens seems long-lived. I have two old plants, one over 12 years.

Edraianthus serpyllifolius and *E. hederacea* survive—others do not, but *E. pumilio* seeds itself. *Erodiums* as a race survive. *E. chrysanthum* is especially good.

Gentians do badly, *G. verna* especially. I can only recollect old clumps of *G. acaulis*, *G. septemfida*, *G. asclepiadea*, and possibly *G. Kesselringii*.

Diablos in time get shabby, but *D. imbricata* is an exception.

Douglasia citadina and *pratensis* seem very long-lived.

Halberia rhodopensis survives.

Of *Hypericums*, *H. reptans* is the best, but *H. olympicum* seeds itself freely.

I have old clumps of *Iris tectorum*, *I. gracilipes*, *I. lucustris*, all the siberica type do well. Bulbous irises do not survive.

Linca canadensis spreads and survives.

Oxalis.—I do not recollect losing any plants of *O. enneaphylla*, *O. adenophylla* or *O. lasiandra*. But *O. lobata* and *O. valdiviana* are not very hardy here.

Of *Ononis*, *coccinea* and *macrophylla* I have no complaints.

Papaver alpinum is short-lived. *P. rupifragum* increases.

Phyteumas, except *P. pauciflora*, *P. hemispherica* and *P. comosum* (slugs, not constitution) survive.

Polemoniums do not live long, except *P. reptans*.

Potentillas and *Geums* survive, but *G. Bulgaricum* (true) and *G. reptans* are uncertain in extra damp winters.

Primulas are not long-lived, except the *Auricula* type. With most of them my difficulty is to plant them in positions damp enough for their summer requirements, and not too damp for their resting period.

Ranondias all succeed. I have one old clump of *R. Nathaliæ* at least 12 years old.

Pyrolas once established are indestructible in loose peat.

Saxifragas.—*Lizoons*, except *rar. rosea*, are long-lived in ordinary garden soil. Of *Kabschias*, in addition to those mentioned by Mr. Scaife, I have old plants of *S. Borgei*, *S. Jurgensana*, *S. Ferd-Corburgi*, *Boydii alba*, *ciesia* (planted 1911 in moraine), *pseudo-Kotschyi*, *Salomoni Vandelli*, and *Tombacensis*; the last two—judging from collected specimens—must be very long-lived in their native habitats.

Other old clumps of *Saxifraga* which occur to me are of

S. Burseriana major (in half shade),
S. Fortunei, *S. luteo-purpurea*, *S. thessalica*, *S. integrifolia*, *S. rupicola*, *S. Lyelli*, *S. azoides*, *S. Kellereri*, and unless the recent drought has killed it in my absence, I had a magnificent old plant of the *Frederici Augusti* form of *S. Strimburi*, which bore last February no less than 38 spikes of flower.

Shortia galacifolia is 14 years old, and a fine plant. *S. uniflora* about 6.

Soldanellas survive, but flower badly.

Veronica.—All the mat-forming species survive; the small bushlings are less dependable.

Violas.—None of the high alpine survive long. Most of the others either survive or sow themselves.

Lithospermums, *intermedium* and *graminifolium* survive. *L. prostratum* dies away in patches.

I have already occupied more space than I intended, and have but touched the fringe of the

subject. I think Mr. Anderson and Mr. Scaife would have obtained better results if they had approached it from the other side, and got definite information as to plants which are usually difficult and bad doers, or biennial, monocarpous or half hardy. It is far easier to eliminate these than to enumerate all the alpinæ that may survive five or six seasons.

MURRAY HORNIBROOK.

The Gloriosa,

A SUPERB CLIMBER.

THE name given to this climber is indicative of its excellence. The *Gloriosa* is, indeed, a glorious flower, quaint in its formation and beautiful when seen depending from the roof of a warm conservatory or stove, its flowers of gold and orange and carmine-red denoting that it is a plant something out of the ordinary. Though it is best suited when grown in the warm, humid atmosphere to be found in a stove, it can also be satisfactorily dealt with in a greenhouse where heat is kept little beyond the normal. *Gloriosas* are at the zenith of their beauty from July to September, and in a suitable environment throw up shoots upwards of 6 feet in length which, if trained early in the season, can be drawn under the rafters or on a trellis on the back wall of a conservatory. They are tuberous-rooted subjects, and are in a dormant state during winter, when the pots should be turned on their sides, and kept free from both damp and frost, starting them into growth in a brisk heat about February. Peat loam, cow manure, and coarse silver sand should form the compost. They enjoy liberal supplies of water during the season of growth.

W. LINDERS LEA.

Sweet Peas

IN August these charming flowers are beginning to feel the strain of flowering, and particularly so this season after the early and prolonged drought. We refer chiefly to plants grown for garden decoration and for cutting rather than to those grown for exhibition, and which are specially cared for. It is a kindness to the plants to cut the flowers regularly, for although it is their nature to form seeds abundantly, they rapidly come to an end when allowed to do so.

Copious waterings are necessary during dry weather, and frequent applications of weak manure water will keep the plants growing and producing flowers.

Sorbaria

THIS is the generic name adopted by some botanists for the species of *Spiræa* belonging to the section which includes the well-known *Sp. Aitchisoni* and *Sp. Lindleyana*.

They are distinguished by their unequally pinnate leaves of large size, the leaflets correspondingly large and rather prominently veined.

Two varieties of *Sorbaria arborea* were introduced from China by E. H. Wilson, and are now large, vigorous shrubs; they are *S. arborea*, var. *glabrata* (W. 499), and *S. arborea*, var. *subtomentosa* (W. 235).

Both are vigorous, producing long growths annually, bearing large leaves having from six to seven pairs of leaflets, and terminated by very

large much-branched inflorescences composed of numerous creamy-white flowers of short duration.

As growing in the Glasnevin collection, the differences between the two species are not easy to discover. The leaves of the latter are here from 12 to 15 inches in length, the leaflets 3 to 4 inches long, and from $\frac{1}{2}$ to 2 inches wide, rounded or slightly tapered at the base and with a long acuminate point. In the variety *glabrata* the leaves are slightly smaller, averaging about 12 to 13 inches, but otherwise both leaves and leaflets are similar in shape to those of the variety *subtomentosa*; both, so far as I can discern, are glabrous on the upper surface and densely tomentose between the veins below. The slight difference in size of the leaves might easily be accounted for by difference in soil and position, as the var. *subtomentosa* is growing in a comparatively newly-made border, while *glabrata* is growing in a bed occupied by various *Spiræas* for many years. Where plenty of room can be allowed for development, the *Sorbarias* make handsome shrubs for late summer flowering. They should be pruned in spring.

J. W. B.

Hardy Perennials

THE hardy perennials on light soils have suffered severely during early summer. Delphiniums, Lupins, *Pæonias*, and *Pyrethrums* were nothing like so vigorous as usual, and their flowers passed over quickly. Every endeavour must be made to help the late summer and autumn bloomers to develop as freely as possible. *Helianthus*, *Helenium*, *Rudbeckias*, *Michænas*, *Daisies*, *Anemone japonica*, *Helopsis*, *Kniphofias*, *Tristomas* (*Montbretia*), and others have still a chance to develop, and should receive every encouragement. Keep the soil well stirred about them at every opportunity, and water well whenever possible during dry weather: it will take much rain now to moisten the soil to any depth, so that time will not be wasted watering even after a day's rain. As soon as the surface begins to dry after rain or watering loosen well with the hoe to prevent caking. There is every possibility of a brilliant autumn display after the hot weather of early summer.

Border Chrysanthemums

THE long spell of drought has been rather severe on *Chrysanthemums*, more especially where planted out somewhat late, after spring bedding plants. The growth is short and not free, and there is a tendency to early bud formation militating against free growth. Water should be applied where possible as long as the drought continues, and the hoe should be kept going between the plants as often as possible to keep the surface soil loose and friable. After watering with clear water, a weak stimulant will be beneficial, and manure water from the cow sheds is as good as any, providing it is well diluted. Where no natural manure water is available, nitrate of soda, at the rate of $\frac{1}{2}$ oz. to not less than 2 gallons of water may be used.

"The Orchid Review"

AFTER a lapse of six months we are glad to note the re-issue of our admirable contemporary. Founded by the late R. Allen Rolfe, A.L.S., and edited by him for twenty-eight years, it has

long occupied a prominent place in botanical and horticultural literature, and in it have appeared from time to time many illuminating articles on the botany and cultivation of orchids. The late editor was an indefatigable worker, with an expert botanical knowledge supported by a knowledge of cultural conditions—a combination all too rare among botanists and gardeners.

The new editor, Mr. Gurney Wilson, F.L.S., is well known to orchid lovers, and is recognised as an authority. He was formerly editor of *The Orchid World*, and under his able and enthusiastic guidance we have every faith that *The Orchid Review* will continue its useful work for many years to come. The current issue is excellent in every respect.

They Like the Heat

ALTHOUGH the long spell of drought and heat in June and July was against the full development of many herbaceous and alpine plants, yet some certainly enjoyed it and showed their appreciation by an abundance of flower and a look of health beyond the normal.

Notably bright was *Verbena chamaedrifolia*, a trailing rock plant not to be called altogether hardy as a rule, but surviving moderate winters with some protection against winter wet. Given a hot summer like this there results a blaze of brilliant scarlet from the prostrate stems, which draws one to it from a long way off. The plant flowers late into the autumn and is easily struck from cuttings.



[Photo by]

[Miss E. V. Miller]

ASTER FARRERI. (See page 77.)

Another plant which has been extraordinarily conspicuous during June and July, and looks like continuing, is *Hunnermannia fumicarpa*, a Californian poppywort, alas, only a biennial. Nevertheless, it seeds freely and grows easily, and should a seedling survive the winter out of doors it is a revelation to see how it develops in such a summer as this. High up on the rock garden at Glasnevin a strong seedling lived through last winter and for many weeks now has been producing any amount of its large, clear yellow flowers on leafy stems, two feet high, the stems and much divided leaves of a glaucous grey colour; it is still full of buds and long developing seed vessels.

A Californian composite is *Eriophyllum lanatum* *obovatum*, and it came to Glasnevin from Mr. A. K. Bulley, of Ness, Cheshire. In a wet season this might be a coarse plant but in the heat of mid-summer it is a plant of considerable beauty. The trailing shoots are furnished with broadly lance-shaped leaves, grey from the presence of a tomentum on both surfaces, and the shoots are likewise grey. The flower heads, produced in profusion, are of a rich, golden yellow; a plant which evidently likes poor, stony soil and full exposure to the sun.

Hypericum olympicum citrinum has been noted before in this Journal, but its merits as a free-flowering subject in hot weather cannot be over-estimated. It forms in a couple of years good sized bushes fifteen inches or so high, and as much through, the erect stems, furnished with glaucous leaves and terminated by numerous clear, citron yellow flowers.

Hypericum empetrifolium, with wiry shoots eighteen inches high, small heath-like leaves and so freely flowered as to resemble a golden yellow ball in the distance, evidently rejoices in any amount of heat and a poor soil. A plant in the rock garden at Glasnevin is growing at the base of a large stone, and almost in the hard path, and seems in the best of health, having been there for years, even surviving without protection the winter of 1916-17. The fact of these plants being conspicuously good in a hot season seems to suggest that when planting they should be given a position freely exposed to the sun and poor, gritty soil. Many plants die in winter through too good treatment in summer, and any that are reputedly tender should be tried in clinks or by the sides of hard paths, or on the top of a wall, where the most astonishing variety of plants will live and flourish.

X.

Bulbs for Early Autumn Planting

ALTHOUGH bulb planting is generally associated with the clearing off of summer bedding plants there is a goodly number which can and ought to be planted now. For instance, any that are destined for naturalising in grass or about the margins of woodland walks should be planted as soon as possible in order that they may get established as soon as possible. At the time of writing the soil is too dry, but it is to be hoped that ere this note appears in print we shall have had some rain.

Then, all autumn flowering bulbs should not be longer delayed. Autumn flowering Crocuses, for instance, should not be kept out of the ground longer than necessary. The beautiful *Crocus speciosus*, than which it is difficult to imagine any flower more lovely in August and September, or the charming *C. iridiflorus*. Colchicums, so often wrongly called autumn Crocuses, must be planted



Collection of Vegetables exhibited by B. H. BARTON, Esq., D.L., Straffan House, Straffan, Kildare (Gardener, Mr. Streeter). From seeds supplied by MESSRS. HOGG & ROBERTSON, Mary Street, Dublin.

as early as possible; finest species and varieties are *Colchicum spectosum*, and the varieties *rubrum* and *album*. *C. giganteum*, with large, handsome, lilac pink flowers, *C. autumnale*, *C. autumnale album plenum* and others, are all ornamental in shrubberies and anywhere that the large leaves will not be too conspicuous when dying down in early summer.

Others which should be planted early are *Chionodoxas*, *Scillas*, such as *sibirica* and *bifolia*, *Erythroniums*, of which there are numerous beautiful American species loving damp places and hating to be long out of the soil. *Fritillarias*, especially the smaller flowered, early blooming kinds, ought to be procured and planted as soon as possible, most of the failures with these small bulbs being due to their being kept dry too long. *Snowdrops*, as a matter of fact, should be planted while still in leaf, for they hate disturbance when dormant, and resent strongly being kept out of the soil.

Leucojums too, particularly *L. vernum* and its varieties, grow much stronger if planted as early as possible. By this time the majority of rock plants have finished blooming, and a considerable amount of planting can be proceeded with; among other things bulbs may be put in in selected places. Colonies of *Chionodoxas*, *scilla sibirica*, *S. bifolia*, white and pink, *Crocuses* of many colours, Tulip species such as *T. dasystemon*, *T. Fosteri*, *T. Eichleri*, *T. Batalini*, *T. Hoegeri*, *T. montana*, *T. pulchella*, and so on, also *Narcissus minor* and *minimus*, *N. moschatius*, *N. triandrus*, *N. cyclaminus* and *N. bulbocodium*, all rejoice in sunny, very well drained spots among stones, and give great beauty and interest to the early spring months.

FORWARD.

Allotments.

THE drought has caused serious loss to allotment holders. They were the first users to be restricted with water in districts where the scarcity demanded economy. However, apart even from water restrictions, crops which were never watered by artificial means, such as Potatoes and root crops, have suffered tremendously by the absence of rain. There are a number of cases of Potatoes planted in the beginning of May which, at the time of writing, with the exception of a few tantalizing drops, have not had a shower of rain since being planted. These crops have made but little growth, and have every prospect of ripening prematurely with consequent loss. If Potatoes, etc., have suffered badly the condition of autumn and winter Cabbages and Cauliflowers is even worse. The planting time was postponed in the hope of

rain, but day followed day and instead of rain the temperature rose still higher. In some sandy soils the greens were planted and watered every day until rooted in the new ground, and it is questionable now whether the endless, tiresome job of carrying water has been in vain.

The lessons to be learned from prolonged dry weather are the advantages of deep cultivation and manuring. It has been surprising on well cultivated plots the resistance to drought even vegetable crops are capable of. When we also take into consideration that by far the greater proportion of the constituents of these crops is water one wonders from where have they managed to obtain moisture to live and grow.

ABSENCE OF WEEDS.—Another striking effect of the drought is the absence of weeds on plots which were hoed and weeded in the usual manner after the rows of crops were above the ground in the spring. The small seeds of Chickweed and Groundsel have positively refused to grow, and after-weeding has been reduced to a minimum. Even if these small seeds of weeds germinated, the lack of moisture in the surface soil caused their early collapse, so high was the temperature of the soil at midday. However, the absence of weeds does not compensate one for the loss and disappointment which is the experience of many allotment holders this season.

POTATO SPRAYING.—The restrictions on the use of water by allotment holders as mentioned above, has meant, so far as we here are concerned, practically no potatoes have been sprayed. Although it is yet early to speak of what may happen to the latest crops of Potatoes, it is certain the mid-season crops will be almost free from blight, even without the spraying. Blight is, of course, favoured by moist conditions in June and July, and these months being so dry disease so far is practically non-existent.

CAULIFLOWERS.—Early Cauliflowers are such a valuable crop that it is worth while taking some trouble to obtain success. The seeds may be sown outside; if the soil is poor so much the better to get sturdy plants for the winter. The seedling plants should be transplanted in firm ground about four inches apart. If frames are available no difficulty is experienced in getting plants to survive the winter. Protection should only be given in severe weather.

HERBS.—In dry weather cut herbs. Sage, Thyme and other Herbs are useful when dried for the winter, and on the Continent these plants are grown extensively for this purpose alone. Their practice is to cut the herbs, and tie them in bunches, hanging them on lines stretched near the ceiling in open sheds. Cut before the plants seed,

as by then the stems are hard. If the spikes of Lavender are cut and placed on paper to dry, they retain the perfume for a long time.

ONIONS.—When the foliage has shown evident signs of decay, lay the bulbs thinly on hard, dry ground, and turn them until properly dried. Pick over the hardest and cleanest bulbs, they may then be tied on ropes, and hung up for winter use. The remainder can be used first. Imported Onions are now so cheap that their cultivation is not nearly so extensive on allotments, owing also to the ravages of the maggot. Seeds sown, however, in the autumn of the Tripoli varieties are well worth cultivating, as a heavy crop can be obtained with little trouble, and free from maggot. If a good bed is made now transplanting will not be necessary in the spring, as the plants may be thinned then and used as scallions. To make the bed deep digging is important, and a dressing of lime and soot raked in previous to sowing. Tread the soil firmly and make a fine and level surface for the seeds. Draw drills twelve inches apart and sow Giant Red, also Giant Lemon Rocca. The ordinary varieties such as Ailsa Craig and Bedfordshire Champion may be sown. While we have no faith in fixed dates for sowing seeds, it is not wise to sow before the recognised date here, which is the 16th of the month.

LETTUCE.—Seeds of Lettuce may be sown during August, about the second or third week. Select a hardy variety, such as Winter Pearl or All the Year Round. If the plants are to remain in the seed bed throughout the winter, the seed must be sown thinly. Overcrowded plants melt away during the winter. The best results are obtained by transplanting into drills twelve inches apart. By this means a valuable addition to very little Lettuce in the spring is obtained.

CELERY.—Place soil to the plants as growth succeeds. Break the soil up; the most satisfactory method is to hold the plants working the soil around them with the hand.

FLOWER BORDER.—If the Sweet Peas show signs of exhaustion pick all the blooms and seed pods off, and give a good watering with manure water. Early flowering Chrysanthemums are worth all the trouble given to them, and, if necessary, the shoots should be staked. The later kinds are unsatisfactory in allotments owing to lack of shelter, and especially because the blooms become soiled with rain in the vicinity of towns. G. H. O.

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to H. B. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

KITCHEN GARDEN.

CELERY.—The Celery plants in all stages will now be making growth, and will require constant supplies of water. Carefully remove all side growths as they appear, and also any discoloured leaves. The earliest plants should now be prepared for blanching. Tie a strand of matting just under the foliage at the top of the stems, then add a little soil over the roots, about two or three inches, or use brown paper strips about four inches wide. When finished give a thorough soak-

ing and a dusting of soot once a week. Watch for Celery fly, and destroy the grubs at once.

COLEWORTS.—Any vacant plots should be now filled with Coleworts of any variety. These will prove most useful when the summer Cabbage is over. Plants should be allowed 18 inches between the rows, and about 15 inches apart.

SPRING CABBAGE.—Another sowing may be made for supplying the main bed plants. Flower of Spring for preference. If the ground is very hot and dry thoroughly water the drills before sowing, and again after the seed is sown water the whole bed. Personally, I avoid watering all spring Cabbage after this, as it may cause them to become too soft, but everyone must be guided by circumstances. Guard against fly and mildew.

ALL GREEN GROWING CROPS.—Keep the ground constantly stirred, and clean between all growing crops. Remove all dead and decayed leaves, and should the stems of any variety become loose, draw some soil up to them at once.

CAULIFLOWER.—Watch most carefully all Cauliflowers, covering the curds as soon as they show colour. Apply good mulching in hot weather, and make secure from all winds. Do not sow the autumn sowings for early spring use too soon, otherwise they will get too large and button.

CELERYAC.—Keep this crop growing freely and free from weeds. Manure water may be given in plentiful supplies. Remove any yellow leaves or offshoots.

TURNIPS.—Thin the winter Turnips to about 9 inches apart as they become ready. Keep the hoe well plied between the rows, and occasional dustings of soot. Seed may still be sown and may prove useful for supplying greens in case of a severe winter.

ONIONS.—Large Onions require to be handled most carefully when strong. If any are required for special purposes use a hand barrow to carry them, one layer and on wood wool. The very best bulbs should be placed on a finished fruit house shelf to get full sun for a few days to obtain that beautiful clear skin so much admired. These large bulbs should be used in the kitchen first, as they will not last long into the New Year.

CARROTS.—Make a sowing of Shorthorn Carrots for winter supplies of freshly pulled roots, and used as a vegetable they are most excellent, using the main crop for stock purposes and flavouring.

WINTER ONIONS.—Towards the end of the month seeds of the Giant White Leviathan, Red Italian and Lemon Rocca should be sown thinly and evenly in shallow drills to supply the early bulbs for next season. Make the ground very firm, and dust well over with soot and wood ashes.

SPINACH.—Prepare a good breath of ground, south border for preference, for the main sowing of winter Spinach. I find in these gardens that Victoria round, recommended for summer work, stands the climate much better than the prickly generally used for this purpose. When the soil is naturally heavy apply a good dressing of leaf soil and road grit, burnt refuse or anything to lighten it, and enable the rains to drain off. Sixteen inches is a good working distance, and finally thin to four inches from plant to plant.

POTATOES.—As soon as the second early and main crop Potatoes become ripe, they should be carefully lifted and stored in a frost proof house. Allow the tubers to dry on the ground before storing—a few hours will suffice—place the ware together and place the seed thinly on shelves. Should any disease be present, be careful to burn

all infested tubers and destroy every bit of haulm. Give the ground a good dressing of lime, and plant a green crop.

PARSLEY.—As Parsley is required every day through the season, it is advisable to have plentiful supplies. Make a sowing now, early in the month, choosing a position where frames and lights may be placed over in the severe winter months. Established beds should have the old leaves taken off, the young growth standing the weather much better.

LEEKS.—Continue to blanch and feed all growing Leeks. See that the soil is not allowed higher than the leaves, otherwise the plants will be greatly checked and discoloured. It is advisable to place a little long litter along the rows, this will prevent the soil washing on the foliage when watering.

VEGETABLE MARROWS.—These plants are bearing very heavy crops this season and require a little attention with thinning and watering. Keep the fruit cut in a young state before they become tough. Send Imp. Custard into the diningroom for choice, this variety having a very delicate flavour, and is generally highly esteemed. Several fruits may be allowed to reach full size if any are required for preserving.

FRENCH BEANS.—Sow a few frames of a quick maturing French Bean in case of early frost. Keep the lights off until the weather breaks. Give the main crops a plentiful supply of water; keep the pods picked in a young state.

LETTUCE.—Make a good sowing of All the Year Round to stand the winter on a south border.

ENDIVE.—Sow the Batavian Endive now for spring use, utilising any spare frames. Continue to blanch earlier crop.

HARDY FRUIT GARDEN.

RASPBERRIES.—As soon as the crop is finished, remove all the old canes and loosely tie in the new ones to thoroughly ripen before the winter. Clean the beds and plantations, burning all rubbish, and give the canes a thorough soaking with clean water. Keep the autumn fruiting varieties well supplied with moisture, and give a good mulching of manure, if not already done.

APRICOTS.—Gather all Apricot fruits both for dessert and preserving as they become fit. When the crop is cleared give the trees a thorough syringing with a strong insecticide, and thorough soakings at the root. See that the water soaks well into the border, and does not run off on other ground.

MORELLO CHERRIES.—Morello's are ripening rapidly this season. Place the nets in position as early as possible, as birds are most troublesome when they once get a liking for the fruit. The trees will require plenty of moisture at the roots. As soon as the crop is finished do any necessary pruning.

WALL TREES.—Continue to train the growths of all Wall Trees. In the case of Peaches and Nectarines the shoots will require constant attention. Keep them tied in thinly, and expose the fruits to all sun and air. Sometimes a bit of hexagon netting placed in front of the trees during the ripening period will assist to put a very fine finish on the fruit. Cardinal Nectarine is an instance. Keep well supplied with water at all times, and an occasional dusting of lime during the stoning period.

PLUMS.—Choice Plums will require most careful treatment to finish them well. They are a very short crop here this season owing to continued

frost during the flowering of the trees. The fruit must be protected from wasps by small bags; bottles containing any sweetened substance will attract and destroy flies and bluebottles, etc. See that the borders are moist, and after picking the crop thoroughly cleanse and water the trees.

FIGS.—Outside Figs are carrying very heavy crops, and require a good deal of assistance to finish their fruit. Endeavour to keep the shoots thinly trained and the leaders secure. Use a concentrated manure for old established trees, but only clear water for young strongly growing trees. If extra fine fruit is required tie the foliage back from the fruit, thus exposing it to the full sun; the Fig being a native of hot climates.

STRAWBERRIES.—Get the new beds planted as early as possible; thoroughly trench and heavily manure the ground, this has been an exceptional season. For this fruit it is advisable from time to time to change the stock, and also try a few of the later varieties. Some varieties thrive where others fail, but it can soon be seen whether they are at home or not.

FLOWER GARDEN AND PLEASURE GROUNDS.

RAMBLING ROSES.—Remove any weak growths and old flowering shoots of any of the Rambling Roses that are being trained over arches, Pergolia, etc.—Keep the young growths neatly and securely tied in position to cover their allotted space. They will be greatly benefited by liberal soaking of water, and a good fresh mulching will also assist them.

BEDDING PLANTS.—All summer Bedding Plants must be propagated as early as possible. Endeavour to have next season's plants arranged so that plenty of stock may be taken; on the other hand, do not raise a thousand where only 100 is required, as this would mean unnecessary work and housing. Zonals are best taken off made and inserted into boxes or pots at once, not dried as formerly practised. Give a thorough watering in, and stand out in the open, in the frame ground. Such things as Carnations, Heliotropes, Ageratum, Salvia, Verbena and Lantana are better on a slight hot bed in frames, and carefully shaded from the sun.

HYDRANGEA HORTENSIS AND VAR.—The cuttings that were inserted last month will soon begin to form roots, when they will require a little air during the day time. See that they are not allowed to become dry, or the bottom leaves cause them to get hung in the soil.

SWEET VIOLETS.—Carefully remove all runners, and give a little concentrated manure. Keep the hoe busy and syringe twice daily with clean water, and several times a week with soot water, to keep red spider down.

SUMMER BEDDING.—Continue to remove all dead flowers and leaves, and carefully edge and peg down all strong growths, making the beds a pleasure to look at; do not allow them to become dry, or the display will prove short. All plants growing in tubs and vases will require constant attention.

CLIMBERS.—Continue to train all Creepers thinly over their allotted space. See that they do not suffer from want of water at the root.

LAWNS, ETC.—Keep the machines constantly on the lawns, especially after warm showers. Watch the playing grounds and keep in first class condition. Tennis Courts require constant rolling and mowing, in fact every day, to keep them in that condition that the players enjoy.

BAMBOOS.—Where the Bamboos are making new growth give them copious supplies of water.

Watch any that are recently planted, as dryness at the root is fatal to good results.

HARDY FERNS.—These handsome Ferns must not be allowed to become dry; a gentle spray over the fronds, and a thorough soaking at the root are most essential.

LAVENDER.—The Lavender spikes require to be cut and sent into the house to dry for the linen press, etc., before they are fully out. When the flowers are picked carefully clip the hedges or bushes into shape.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

THE continuous spell of dry weather has been very trying on vegetable growth, and has added considerably to the labour in the Kitchen Garden. The advantage of trenching the ground has been fully borne out this season; crops growing on such land have made fair progress, but watering has been a necessity to save complete failure on ground that was merely dug over.

BROCCOLI.—The planting of most vegetables will be in arrear, but late batches of Broccoli can be put out during the month, with a good chance of turning in at their proper season. The planting of Leeks, Savoys and other winter greens should be completed as soon as possible.

CABBAGE.—A further sowing may be made during the first week, and another about the end of the month. Early Offenham, Ellam's Early and Drummond's First of All are all good, and may be relied on for this sowing.

CALIFLOWER.—The last days of the month will be early enough to sow for a supply next June. Sow in a sheltered position, and when the seedlings are large enough prick them off into cold frames; the lights will only be required in wet or frosty weather.

CELERY.—The early trench will require some soil put to them, adding a few inches at one time, pressing it round the plants; it is advisable to give them a good soaking of water the previous evening.

LETTUCE.—Sow for a winter and spring supply during the month; Winter White and All the Year Round stand well.

ONIONS.—Towards the end of the month sow Triplices; Ailsa Craig, Cranston's Excelsior and Sterling Exhibitor may be included, and are of a higher quality than the former. Plants showing signs of maturing may be pulled and left on the ground to ripen off, when they can be lifted under cover until a convenient time for cleaning and storing away.

POTATOES.—Dig up second earlies as soon as the haulm changes colour, utilising the ground with green crops or Strawberries.

SPINACH.—Sow prickly or winter varieties, including a few drills of Spinach Beet, which will always give a picking.

TOMATOES.—When early crops are required, and a proper temperature can be maintained during the winter, seed should be sown during the month. A temperature of 55 to 60 degrees with a dry atmosphere is necessary to keep them going. Pot on the seedlings when large enough, and aim at getting them established in their fruiting pots before winter sets in. Plants ripening fruit require

careful watering, pick the fruit as soon as coloured, as there is a danger of them bursting with a sudden rise in the temperature.

TURNIPS.—Make a good sowing of Early Snowball Red Globe or Golden Ball. These may be left in the ground and pulled as required for use.

THE FRUIT GARDEN.

STRAWBERRIES.—Push on with the planting of the young runners when the garden is in a suitable condition. The earlier they are got in the better to enable them to get well established, and build up crowns before the winter. Clean away all weeds and runners from old plantations, and keep the hoe in use during the autumn.

RASPBERRIES AND LOGANBERRIES.—As soon as the fruit is gathered cut away the old canes, and thin out the young ones to the required number; tie these loosely to the supports against the wind breaking them over. All weeds and rubbish may then be removed and burned; water well with liquid manure if available.

PEACHES AND NECTARINES.—Trees under glass are liable to attacks of Red Spider during the period of ripening; when the fruit is picked give them a thorough syringing daily until clean. Cut away the old fruiting wood and encourage the ripening of the young shoots by allowing all air possible through the house. Guard against dryness at the roots.

FIGS.—These require a plentiful supply of moisture at the roots, especially when they are restricted, also occasional applications of liquid manure. Pinch the young growths at the fifth leaf and cut out weak and surplus wood.

Wasps are very destructive amongst ripening fruit and must be dealt with. Destroy all nests possible. Cyanide of Potassium dropped into the hole and moistened with water generally ends their career. This can be done in the daytime when it is easier to follow their flight. Peaches, Plums and Pears must be protected, small pieces of tiffany secured over choice fruits repays the little trouble taken.

THE PLEASURE GROUNDS.

The principal work in this quarter will be the keeping of the surroundings clean and tidy. The flower beds and borders will have a gay appearance and, to maintain this all spent flowers and decayed leaves should be picked off, the grass edges trimmed and paths hoed and raked.

Provision must now be made to raise a stock of material to carry on the next season's plan; cuttings of Geraniums, Heliotropes, Verbenas, Fuschias and other such plants that are used in the flower quarters should be got in. Geraniums are generally placed in boxes of gritty soil and stood in full sunshine, and the other subjects mentioned require a frame and kept shaded from bright sunshine till rooted.

BORDER CHRYSANTHEMUMS will be coming into flower and should be tied up to thin supports, otherwise the weight of bloom will break them over. A little artificial manure hoed in round the plants will help to increase the size of flowers, and add richness of colour.

YEW and other hedges should be trimmed during the month; very little growth is on them this year owing to the drought, but they have a ragged appearance.

RAMBLER ROSES that have finished flowering may have the old wood cut out, and the young shoots coming from the base secured to the poles and trellises.

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Irish Gardening

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1921

EDITOR—J. W. BESANT.

Roses at Rostrevor House.

By W. PHYLIS MOORE.



It is refreshing to find that in some gardens the craze for the so-called "perfect Rose," perfect apparently in the eyes of the raisers and judges, even if the first essential of a good Rose, scent, be missing, has not yet penetrated, and that the old "garden Roses" are grown and prized. Many will be inclined to

include among these "garden Roses" the delightful and graceful single and semi-double forms which have so much to recommend them—and to these now may be added the new and wonderful Chinese single Roses which are such an addition to the family.

In Sir John Ross of Bladenburg's garden the Roses of "east" and "west," the "old" and the "new" are fully appreciated. On entering the garden proper, the first plant one sees in bloom in mid-June is a large clump of the old *Damask York and Lancaster Rose*, with its brightly striped red and white petals, reminders of old unhappy far-off things and battles long ago. On the other side of the path is the *Apothecary's Rose* or *Rosa Gallica*, stiff, erect growth, and flowers varying from bright rose to crimson. It is very sweet; the petals have been used medicinally from time immemorial, hence its name, the Apothecary's Rose. It is one of the Roses grown in Turkey for making Attar of Roses.

A little further up the path on a trellis of Larch poles a single climbing Rose of unusual colour and shape is flourishing. Some years ago Lady Ross saw this remarkable Rose in a small market garden at Vaveno in Italy and wisely brought home a plant. The petals are bright pink with crimson shadows, the flowers are not the usual cupped shape, but flattened with undulating petals, something like *Rose Anemone*, but flatter. The stems are very slender with delicately shaped leaves. It was flowering so freely one wondered where the cuttings so generously promised by Sir John Ross were to come from, but they have arrived. The name of this delightful Rose is *R. Typo Ideale*.

On the hillside Sir John Ross has planted a number of single Roses, and left them to grow as they please. The result is a most lovely group—strong, branching sprays, attractive at all seasons.

Rosa Moyesii stands out as queen of them all, by virtue of her rich ruby flowers, that no other single Rose can rival in colour or texture—and when in the autumn the ruby flowers are recalled by the large ripe hips it will be nearly as attractive.

Some seedlings of *R. Moyesii*, although very bright, have not the intense colour of the parent plant.

Rosa "Huangouki,"—A strong grower with clusters of white flowers, the petals large and far apart, the calyx and stems dark red. This Rose has one virtue *Rosa Moyesii* lacks—a very sweet scent. Chinese.

Rosa pomifera, more upright in habit than the last-named; glaucous foliage and a bright pink flower, contrasts well with its neighbour, a Chinese Rose which, so far, is only known under the collector's number—a lovely golden yellow, with very bright shining leaves.

Rosa Willmottii.—Delicately fine in branches and flowers, one of the most lovely of Chinese Roses; bright red thorns showing clearly on the grey green stems, the leaves small, each leaflet set far apart; the small, soft pink flower in keeping with the whole *petite* character of the plant.

Rosa rugosa.—A strong grower in any soil, bids fair to be a timber tree at Rostrevor. It is eight or nine feet high; red and white, planted in a group, in leaf, flower and fruit it is beautiful. The leaves are dark green, very strong and rough on the upper surface, the wonderful scent of the flowers a distinctive perfume which this species has handed down in a marked way to all its offspring. It is a long and persistent bloomer, and when the secondary flowers come with the glowing orange-red fruits in the autumn, it is a sight of great beauty. The leaves turn yellow in late autumn, the ripe fruits of the secondary flowers among them (blackbirds permitting) give a prolonged interest and attraction to this Rose. *Rosa Regelia* and *Rosa Kamtschatica* are forms of this species.

Among these flaunting foreigners there is a greatly treasured modest little plant, *Rosa Iibernica*. I find in *Cybele Iibernica* Dr. David Moore, in 1864, describes the Irish Rose as "very rare, and only recorded in the North-east of Ireland, ranging from sea level to 1,000 feet on Ben

SEP 21 1921

Evening; the stems and branches closely covered with *seta* (bristles), the leaves round, quite smooth on the underside, pink flowers.

Where single Roses are present in a garden a roseless June will not happen, even in the worst of seasons. They are free from the pests that infest the double rose. Many plants have suffered from this unusually dry, sunny summer; single roses have revealed in it.

Co. Down hedges in early June were festooned with sprays of the Dog Rose, white and pink. Much could be done to beautify our gardens, for the single Roses of many lands are at our disposal.

The following is a list of a few of them:—

Rosa rubiginosa (sweet briar), *R. macrophylla* (China), *R. Homalensis*, glaucous foliage, pink flower, distinctive aromatic scent.

R. sericea plicanthes.—A fiercely thorned Chinese Rose; the blood-red thorns on the young growths being not the least decorative part, pink flowers followed by golden orange fruits.

R. spinosissima antica.—One of the Burnet family; large, whitish-yellow flowers; $\frac{1}{2}$ inches in diameter. Flowers in May.

R. californica nana.—From N. W. America; dwarf habit; chiefly noted for its dark mahogany coloured fruits.

R. rubrifolia.—Foliage very grey in summer; colours brightly in the autumn. The stems are dark red; very useful for cut foliage.

Rosa moschata floribunda.—One of the most beautiful of the series; sweeping branches with dense masses of flowers; white, with a very sweet perfume.

The Austrian Copper Briar Roses must be included; their sweet perfume and distinctive copper-orange flowers are beautiful for a sunny spot. They are garden varieties of *Rosa lutea*.

I do not maintain that the above-named are the brightest or best of the single Roses—but they are those that impress themselves pleasantly on the mind of the writer.

Longevity in Rock Plants.

By R. LLOYD PRAEGER.

I READ with much interest Mr. Scaife's remarks in the May number of IRISH GARDENING, and in the July issue Mr. Anderson, while pointing out the interest of this subject, invites me to offer a contribution. His reference to my garden, which he appears to make with some hesitation, I regard as a compliment. It is all a matter of what one sets out to achieve when one makes a garden, and I shall hope to put forward my own point of view in a subsequent number. Meanwhile, the contribution I can make on the question of longevity is, I fear, slight.

In the first place, we must narrow the subject if notes upon longevity are to have any meaning. There is no necessary limit of life at all for any plant which roots as it runs. Fresh stems and roots are being formed continually, and though it remains the same individual, all parts are renewed indefinitely, and fresh soil continually invaded. Thus, the Bracken on a hillside may all have originated from a single spore sown a thousand or ten thousand years ago. Creeping plants may, therefore, be all eliminated from our survey, which should be confined to species which form a single stem or at least a single root-stock or clump.

The next point I would make is that rock plants (in general are plants either of the higher mountains (*i.e.*, true alpinists) or of dry or semi-desert places (such as most succulents and grey-leaved plants). These are accustomed to poor fare and exposure. Luxury usually does not suit them, and if we want them to be long-lived rather than overgrown, we must imitate natural conditions. In rich soil, or damp soil, most of them outgrow their strength, become straggly and flabby, and die in a few years of over-feeding—mostly by means of damping-off suicide during the winter. I find longevity is in many cases greatly increased by planting such things on the top of a stone and mortar wall, where they have but a trace of humus and mineral food. Again and again the individual so placed has survived when all its brethren on the ground have perished. Some plants which are annual or biennial in the ground become perennial on the wall.

Since my garden is only 16 years old, the following notes do not represent the full possible age of the plants. Most of them show no sign of old age, and one cannot say what their limit of life might be; but I give a brief list for what it is worth.

To take some shrubby things first, *Molting petraea*, nine years old; two good bushes, $\frac{1}{2}$ feet high, 5 feet round. *Hypericum coris*, 15 years old. *H. fragile*, 10 years old, fine bushes, a foot high and 9 feet round. *Helianthemum lunulatum*, 10 years old, 6 feet round. *H. alpestre*, 12 years old, forming a flat mat, 5 feet round. *Genista sagittalis*, 16 years old; often cut back. *Cytisus Arduini*, 16 years old, forming a mat covering 10 square feet. *Dianthus pinifolius*—the most shrubby and last to flower of the Pinks, 11 years old, forming a bush $\frac{1}{2}$ feet high and 12 feet round. *Dryas octopetala*, 16 years old, a mat covering a square yard. *Lathyrus montana*, 15 years old, stems as thick as one's thumb; area about 8 square feet. It is these sub-shrubby things which perhaps give the best test of age, and I should be curious to see my plants twenty years hence. Regarding smaller things I have not much to say. *Saxifraga sancta*, *S. Elizabethae*, *S. apiculata*, *S. apiculata alba* and *S. juniperifolia* are the strongest of the Kabschias, and after 10 to 16 years have formed mats up to nearly a yard across. Some other Kabschias are excessively slow-growing, and after 10 years are only a few inches across. Among those which after 10 years are still perfectly healthy are *S. marginata*, *casia*, *Huangii*, *coriophylla*, *tyrolensis*. Among Campanulas the best plant I have of those which do not spread is *C. Tommasiniana*, 12 years old, forming annually a beautiful mound $\frac{3}{4}$ ft. high and six feet round. This is one of the best of the Bell flowers. *Dianthus sarrac*, at 15 years old, is a yard across; it is cut back every year and comes again stronger than ever.

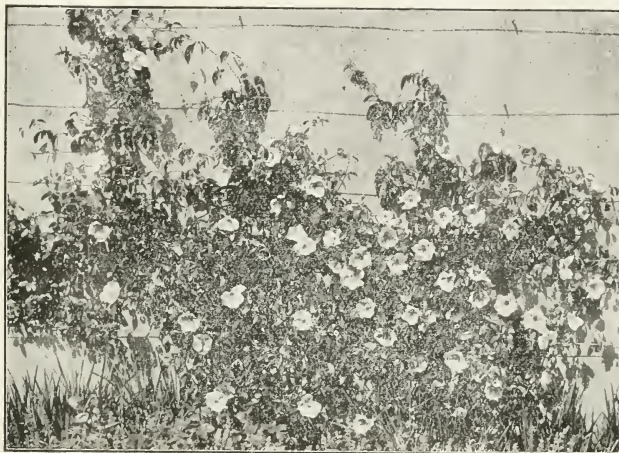
Among other one-rooted plants which after ten to twelve years are going as strong as ever are *Dianthus neglectus*, *Silene schaffa*, *Epilobium Dobonai*, *Geranium argenteum*, several *Erodiums*, several species of *Astragalus* and other leguminosae, and many grey-leaved composites, such as *Pyrethrum*, *Tanacetum*, *Achillea* and *Artemisia*.

Notes from Rostrevor.

ALTHOUGH the drought is now well over, and a plentiful amount of rain has fallen during the past few weeks, yet the flower has generally been

poor and evanescent. This was specially noticeable on some of the Buddleias, on *B. Colvillii*, *B. Davidii*, *B. macrostachya*, *B. nica*, *B. variabilis magnifica*, and a new variety of *B. lindleyana*, introduced from China as No. 1375a (Wilson). The earlier Hydrangeas were also disappointing, for instance, *H. aspera* and *H. sargentiana*, while *H. Bretschneideri* and *H. Rostkorni* did not flower at all, and *H. vestita* has hardly pushed any growth. Nor were the following as good as usual: *Calceolaria alba*, *Desfontainia spinosa*, *Escallonia pulcherrima*, *E. revoluta*, *Hypericum aureum*, *Mutisia ilicifolia*, *Myrtus Luma*, *Swainsonia coronillaefolia alba*, and a few of the Spireas, especially *S. bullata* and *S. Rostkorni*; *Coriantha terminalis* moreover failed to develop its interesting amber-like inflorescence. The weather has lately been curiously cold, more

expand all at once its smaller white dainty flowers, each about an inch in diameter, but rather continues to produce them for many weeks. *Abutilon megapotanicum (eximium)*, *Chamaebatia foliosa*, *Gerardia lancifolia*, *G. purpurea*, *Hydrangea cinerea*, *Hypericum Leschenaultii*, *H. patulum Henryi*, *Lonicera etrusca*, *L. sempervirens*, *Mimulus glutinosus* and var. *coccineus*, *Mitrasia coccinea*, *Pentstemon cordifolius*, *Romneya Coulteri*, and others, are nearly, some altogether, as good as ever. The bright crimson form of *Veronica speciosa* is beginning to open, and seems to be quite satisfactory. But one of the best things out at present is *Mandevilla suaveolens*, a climber from Argentina, with bunches of many deliciously scented large white flowers, each in shape somewhat resembling a periwinkle, to which it is allied. The abnormal heat of the early



ROSA LEVIGATA "ANEMONE" ON A WALL.

like chill October than August, and this circumstance, affecting the flower, though happily doing little harm I think to the growth, has kept away the large butterflies that always at this season flit through the shrubbery in the sun, and that add so much to the beauty of the garden. I have hardly seen one of the fine large Fritillary or Peacock butterflies this year, and they are much missed, the former most of all for their bright, orange-brown colouring, the Admiral butterflies are due a little later.

On the other hand, *Eucryphia pinnatifolia*, even if the display will not last as long as usual, has never been more striking, and a bush some twenty-five feet high with a spread of eight yards is literally smothered in large white flower, each a good three inches across. The evergreen *E. Billardieri* is also to be commended, and is I think more hardy than is generally supposed; it is said to grow ultimately to tree-like dimensions. It has been here for some eight or nine years, and is now more than twelve feet high in no very sheltered spot. Unlike its companion, it does not

summer appears to have suited it well, and I have never seen it more floriferous. It seems to be quite hardy on a wall with a western aspect, and has remained there uninjured for many years.

Iris lacustris is a very pleasing small species, a worthy rival of *I. gracilipes*. Its allies are now at their best: *Antholyza paniculata*, *Moraea iridioides* and the variety *natalensis*, also the charming little *Lapeyrousia (Anomatheca) eruenta* from South Africa, carmine-crimson with a darker centre. The fine *Crocusmia aurea* and the gandy *Tigridia pavonia* of various colours are beginning to show bloom, though the latter have been somewhat affected by the drought, and on this account also *Bravea geminiflora*, *Crinum longifolium*, *Kniphofia Northii* and *K. rufa* are rather poor. But *Agapanthus umbellatus*, blue and white forms, and the *Alstroemecius*, including *A. pulchella (psittacina)* from Brazil, are good; as well as *Crinum Porellii* both white and pink, *Zygadenus elegans*, *Lilium auratum*, *L. dalmanicum*, *L. Henryi*, *L. Sargentii*, and the pretty sky-blue *Commelina celestis*, *Lobelia Caranillesii*, *My-*

solis orienti, *Spartium northlandicum*, and some of the Gazanias are interesting at the present time; of the latter the *longicauda* and one with white flowers (name unknown) seem the hardiest. *Ipomoea* (*Eragrostium*) *purga* is a vigorous climbing perennial, just developing its handsome red-purple flowers. It seems quite at home in the milder districts of the country—though classed as a stove plant in some books of reference. There is a remarkable Hollyhock here with almost black semi-double flowers, at least of the darkest shade of brown conceivable, and only so seen when viewed through the light; it was raised from seed which, I believe, came from Central Asia, and which was very kindly sent me by Mrs. Henry. I have never seen exactly the same colour on any plant. Of Acanthas, two are, or ought to be, favourites. *A. Buchanani*, which soon makes a dense carpet of pleasing light green, and *A. Nova-Zelandica*, a tiny species with conspicuous crimson flowerets. There are others that are desirable, but *A. ovalifolia* from Chile is to be avoided. It spreads with amazing rapidity, forcing its way through rough grass and invading every place, even woodlands, where it is not wanted. It has nothing to recommend it except the leaf, but it is covered in summer with innumerable spiky burrs, that get on one's clothes, and that are very difficult to brush away.

Housing Tender Plants.

WHEN the days begin to shorten perceptibly, we begin to make our plans for the housing of plants for beautifying the greenhouse during the winter. Some of the subjects have stood out of doors for months past, like Chrysanthemums; others have been quartered in cold frames, and in respect to these there is no immediate hurry, as, with a drop in temperature, it is an easy matter to draw down the lights and throw a mat over them. This applies particularly to Primulas, Cyclamens, Solanums, Cinerarias, Azaleas, Heaths, and other similar subjects which eventually need the warmth of a greenhouse to lure them into beauty. Risk of housing should not, however, be run, as it is better to be a week too soon than one night too late. It is sometimes dangerous to defer the placing of plants under cover in mid-September, and many have been the catastrophes with Chrysanthemums all because of procrastination; the prospects of fine blooms, and the work of preceding months brought to naught simply through lack of forethought and arrangement. It is not, of course, possible to select a given date, and say, plants must be housed then, as so much depends on weather conditions at the time, and also on the district. In favoured localities one may often go to the middle of the month before it is really needful to bring the plants indoors, but, as we have remarked, as the month creeps on, arrangements ought to be well in hand so that a sudden drop in the thermometer may find everything under cover of the greenhouse roof.

AFTER HOUSING.—When the plants are once in the house it is important that special attention should be given to their arrangement, and to supplying air and moisture. If it is possible to give Chrysanthemums room to themselves it will be found better to do so, rather than have smaller plants interspersed amongst them, as these last often fail to get the air and light which is so essential to their proper development. In dealing

with Chrysanthemums each must, obviously, be guided by the space at his disposal. To arrange them satisfactorily, it may of course be necessary to remove the staging, or part of it, so as to get the pots on the ground level. With smaller subjects like those mentioned, a staging is required, or, failing this, shelves in the roof, where they can be readily watered and a watch kept over them. It is no uncommon thing to see plants flagging, and looking less robust than they did a few weeks prior to housing them. This may be through an insufficiency of moisture at the roots, but in many cases it is due to lack of air. When it is remembered that the plants have been enjoying "open air treatment" all through the summer, then it will be understood that to place them in a greenhouse where little ventilation is given, is not helpful, but positively harmful to them, and is not calculated to promote a robust, healthy growth.

Short of actual frost, it is undesirable to keep the house warm; indeed, it is sometimes necessary to even shade it some portion of the day in the early autumn during brilliant sun, and it follows that free ventilation should be afforded too. When the house is closed for the night, a little top ventilation will often be found beneficial. Watering ought to be done in the early part of the day, instead of at night, thus avoiding hurry to close the house when the floors are in a "dripping" condition, and the atmosphere charged with moisture. We can do a very great deal for plants which bring so much beauty to our greenhouses during the next few months, by treating them in a rational way and growing them under cool, airy conditions, avoiding a close, stuffy atmosphere. But let our first consideration be, preparing space in the house, so that when signs of chilly autumn approaches, we may get the plants indoors, and reap the reward of the flowers, which has been our object all the summer—a summer that has entailed much labour in the matter of watering them, and in rendering them fit for their blooming time. It is these small attentions that mean so much to winter and early spring flowering subjects.

MERCASTON.

Funkias: Beautiful Plants for Shady Positions.

PRE-EMINENCE is, generally speaking, given to the sunny side of the garden, and plants which thrive in the light and come to full beauty in time of bud and blossom are studied and arranged for from the point of view of colour effect and suitability. It is the "sunshine line" which appeals to most folk. We are constantly being reminded that such and such plants "love the sun," and so it has come about that the shady places in our gardens and their possibilities of beauty are not thought out or considered with the same degree of interest.

But the place where the shadows fall for the longest, as well as the sunny quarter, may be made attractive, suggestive of coolness and quiet and restfulness during the days of summer. Sometimes it is the least inviting spot in a garden in the matter of plants—the neglected and often misused-for-position, which is the very test of the gardener's capabilities. Just as some great landscape painter is able by certain deft finishing touches on the canvas to impart life and beauty to the scene, so the

gardener-artist sees in the least-regarded portion of the ground great possibilities, and, with that before him, works until his ideals are achieved, and sombre and hitherto uninviting surroundings are, by the use of the most suitable subjects, transformed. He creates a scene of beauty where little or none existed before.

We do not go so far as to say that the number of plants which thrive best in the shade is unlimited, but we would remind anyone interested of one hardy subject at least, valued for the beauty of its foliage and flowers, too. It is the Funkia or Plantain Lily, a lover of shade and moisture, one of the prettiest plants in early summer when seen in all the freshness of its new dress, a plant that is not averse to growing under trees so long as they are not allowed to rob it of the elements of the soil.

As we have said, they are hardy—so hardy, in fact, that in all our experience of them we do not remember a winter when frost hurt them to any very great extent, or when the covering of leaves which we gave did not suffice to protect them.

Soil.—Funkias will do well in most soils, but delicate best in one where leaf mould and loam participate. Moisture is essential to them.

Propagation is effected by dividing the clumps, which is best done in spring, when the new growth appears. Being herbaceous, small bulbous-rooted plants like Snowdrops, Anemones and Scillas are often planted about the roots, which bring welcome colour before the leaves of the Funkias unfold. Growth with most of them is rapid, and division every few years is needful.

Varieties.—*F. Fortunei*—Grey-blue leaves, heart-shaped, spikes of mauve flowers. *F. grandiflora*—Foliage pale green, white flowers in graceful spikes, blooms in late summer. *F. Sieboldi*—Large grey-green leaves, pale lavender flowers borne on prominent spikes. *F. aureo-marginata*—Pretty light-green leaves striped yellow. *F. undulata variegata*—Pale green and yellow foliage. *F. ovata*—Prominent deep-green leaves, mauve flowers. *F. lanceifolia*—Narrow green leaves.

W. LINDERS LEA.

Rock Plants.

(Continued from p. 76.)

LEWISIAS have received some attention lately from lovers of rock plants, and although complete success has not yet been achieved by every grower, yet the results in some cases have been so good as to justify their inclusion. One species has proved more amenable than all the others, and fortunately it is one of the best, viz.:—*L. Horellii*, which flourishes exceedingly in moraine at Mount Usher, and has been recently mentioned in this journal. It succeeds admirably at The Bush, Antrim, in the ordinary soil of the rock garden, in both instances freely exposed to the sun. The leaves produced in rosettes are strap-shaped with undulate margins, while the numerous flowers are of a beautiful soft pink colour. The photograph shown in the last issue depicts the plants in the moraine at Mount Usher as they appeared over a year ago, but the number has now increased to between 40 and 50. Several other species can be obtained from nurserymen, such as *L. rediviva*, *L. Tweedyi*, &c., but we advise beginners to try *L. Horellii* at first.

Linarias are the so-called Toad Flaxes, and

among them are some quite useful and pretty rock plants.

L. aquitriloba, although somewhat aggressive, is, nevertheless, so daintily pretty as to merit inclusion wherever some crumbly, damp old rock requires draping with greenery. It clings tightly to the face of rock or wall, forming numerous thread-like shoots densely clothed with tiny three-lobed leaves, and bears over a long season numerous small flowers like those of the common "Kenilworth Ivy" on a much-reduced scale.

Linaria alpina is a pretty rock plant, but not a reliable perennial, some plants dying after flowering, while others perish during the winter. As a rule, however, plenty of seeds are formed, and self-sown seedlings are not uncommon. A plant of low growth, it rarely exceeds 6 inches in height, the shoots somewhat diffuse in flower. The flowers are purple and orange in the type, but a rose-coloured form is almost as common, and plants with white flowers are not unknown. Any or all make pretty groups about the rock garden in summer.

L. origanifolia is a pretty dwarf species for a dry sunny pocket, where it lives and seeds itself about if ensured against too much damp in winter. It forms little roundish tufts of short shoots clothed with round leaves, and bears abundantly purple violet flowers, touched with orange in the throat.

L. Hendersoni forms compact many-stemmed bushes, about 9 inches high, the shoots terminated by racemes of pale mauve flowers.

Linnaea borealis, the Twin Flower, was the subject of an article in IRISH GARDENING of October, 1920. The plant, apart from its historic association with Linnaeus, is beautiful as well as interesting. The long trailing stems are furnished with small, roundish leaves, while the white, pink-veined flowers are borne in pairs at the summit of a slender stalk, and hang down like a pair of bells. Light sandy peat in shade among Rhododendrons or similar plants, or among a collection of plants requiring like treatment, suits it. In Trinity College Botanic Gardens *Linnaea* luxuriates in pots stood in a shaded, cool frame.

Linum brings us to some of the brightest plants of the rock garden, mostly flowering from June to August.

Linum alpinum is a dwarf species, forming many prostrate, slender shoots clothed with narrow leaves, and bearing in July numerous bright blue flowers.

L. arboreum forms a twiggy, roundish bush, a foot or more high, the stems clothed with fairly large green leaves which are persistent, and bearing in early summer corymbs of bright pale yellow flowers.

L. campanulatum, *L. capitatum*, *L. flavum*, and *L. tauricum* are all small bushes, 9 inches to a foot in height, practically evergreen, leaves green or slightly glaucous, and bearing in summer masses of bright yellow flowers varying somewhat in shade of colour.

L. monogynum is a tall, loose grower, giving plenty of white flowers during the summer months.

L. narbonne is a tall grower, reaching 2 feet in height, and giving abundance of dark blue flowers.

L. perenne, blue, and *L. perenne album* are both good plants for border or rockery and well worth growing.

L. salsoloides is one of the glories of June and

July, making a mass of slender, wiry stems, furnished with narrow leaves, and producing masses of white flowers with a faint suggestion of pink. The form called *Linum salsoloides nanum* or *prostratum* has no advantage over the type, so far as the writer has been able to see.

L. tenuifolium and *L. viscosum*, two species with rose-tinted flowers, are notoriously difficult to keep.

Lithospermum includes some of the finest blue-flowered alpinists; probably nothing can excel the masses of *L. prostratum* to be seen in some of the Irish gardens, where lime is absent from the soil.

Undoubtedly the species just mentioned is the finest in the genus, and no rock garden should be without it where there is any hope of success. Where the natural soil is unsuitable, a free admixture of peat is helpful, and a fair amount of moisture is necessary. Where special beds are

There are several yellow-flowered species of *Lithospermum*, but they are of little account, and not generally hardy.

(To be continued.)

Autumn Flowering Ceanothuses.

AUTUMN flowering shrubs are by no means too plentiful, and any that can be introduced to our gardens must be an advantage.

The Ceanothuses have long been known and admired, but they are even now not used to the extent they might be. A doubtful reputation as to hardiness has something to do with this, yet there are few parts of Ireland where they cannot be grown, if not as bushes in the open, at least against a wall. We will not, at present, discuss the evergreen, spring flowering section, but con-



THE GREAT LILY POND AT GREENFIELDS, Co. TIPPERARY (p. 104).

made for peat-loving plants, such as Heaths, Dwarf Rhododendrons, and such like, there *Lithospermum prostratum* may be induced to establish itself, and a glorious feast of real gentian blue may be enjoyed.

L. Gastoni is a dwarf herbaceous species, flourishing in a moist pocket at the base of the rock-work or at the edge of a small bog. The flowers are comparatively large, blue with a whitish "eye."

L. graminifolium makes a prostrate, spreading mass of wiry shoots, clothed with long, narrow, shining green leaves; the flowers are of a beautiful rich blue, and the plant grows readily in a sunny position in any well-drained soil.

L. intermedium makes a small shrub, and is by some preferred to all others. It is more erect than the preceding, with duller leaves, and is, on the whole, a more vigorous plant. The flowers are freely produced in early summer, a lovely clear blue.

L. rosmarinifolium is reputedly tender, but seems to flourish if planted well up on the rockery, where it can get well ripened in summer. It forms quite a bush when doing well, and flowers in early spring, and sometimes intermittently during autumn and winter.

fine ourselves to the broader-leaved deciduous kinds flowering in August and September.

There are many of them, mostly garden hybrids, but none the less useful for that.

Their requirements seem to be, a warm, deep soil and exposure to the sun. In preparing a site for planting, the soil should be well broken up 1½ to 2 feet deep, and if known to be rather poor in quality, a barrowful of better soil should be added round each plant to ensure it making a good start. Flowering as they do at this season of the year, it is, clearly, on shoots of the current year's growth that the flowers are borne; hence, to ensure good growth the following year, and to keep the bushes within bounds, they should be pruned back to within a few buds of the base in March. The colours are for the most part shades of blue and pink, and of the two, the blues are most effective and most generally admired. The following can be recommended:—Blues, *Leon Simon*, pale blue; *Bijou*, good blue; *Gloire des Plantiers*, blue; *Indigo*, deep blue; and *Gloire de Versailles*. Pink or Rose varieties are:—*Albert Pittet*, rosy lilac; *Ceres*, rose; *Mont Rose*, deep rose; *Fleur d'Été*, carmine pink; *Perle Rose*, rose.

These form but a selection of the many varieties

offered by nurserymen, but will be found to include some of the best.

All who have not yet given a fair trial to these beautiful autumn-flowering shrubs should try to see them in flower, and order a few for planting in spring. Plants from pots are most satisfactory, as *Ceanothuses* when once planted dislike future disturbance.

GROWER.

Hydrangeas.

LARGE bushes of the common *Hydrangea hortensis* are not uncommon in the milder parts of Ireland, where they flourish and flower annually with very little attention; both the pink-flowered and blue-flowered forms are strikingly beautiful when seen in big masses.

However, this species is not uniformly hardy

and September, bearing numerous large corymbs of white sterile flowers, which make quite a fine display at this season. Both species should be liberally treated when well established, an annual dressing of rich manure being a decided advantage to them. Hard pruning back in March is essential to encourage vigorous young growth during summer.

The Belladonna Lily.

AMARYLLIS BELLADONNA.

THE popular name of this plant is misleading, as it does not belong to the Lily family, but to the same order as the *Narcissus*, viz., *Amoryllideæ*. It is notable this year on account of the freedom



AMARYLLIS BELLADONNA (from a photograph taken in the Royal Botanic Gardens, Glasnevin).

all over Ireland, where the mild climate is much over-rated by non-residents, and it is only in mild districts near the sea or in specially sheltered positions that bushes such as grow in Devon and Cornwall can be seen. The flowering of *H. hortensis* depends on the formation of a terminal flower bud in autumn and on the survival of that bud during winter and early spring.

Two other autumn flowering species, however, are fairly reliable everywhere; these are *H. paniculata* and *H. arborescens*. In both cases the type plants have large corymbs of fertile flowers of no great ornamental value, but *H. paniculata* has the outermost flowers sterile, the large bracts pure white, becoming pink as they fade. By some people the type is preferred to the variety, which has all the flowers sterile, the large inflorescence being made up entirely of showy bracts. A vigorous well-grown bush of either the type or the variety forms a striking and beautiful object in August and September.

H. arborescens has practically all the flowers fertile in the type, and is hardly worth growing for ornament; *H. arborescens grandiflora*, however, is a magnificent shrub, flowering in August

with which it is flowering. This is, no doubt, due to the thorough ripening of the bulbs during the hot, dry months of early summer. The plant is a native of the Cape of Good Hope, and in its native land enjoys a hotter sun than we are accustomed to. Nevertheless it is a much valued plant in our gardens, and requires only to be planted deeply at the base of a sunny wall in well-drained, loamy soil, to establish itself and live for years. It may not flower freely every year, in fact it seems to do best in alternate years, and a sunless wet summer may delay it even longer, but the glorious rose-pink flowers borne in clusters at the summit of a tall, stout, leafless scape are worth waiting for. In the Botanic Gardens at Glasnevin it is now flowering in abundance at the base of the large Palm House, having for companions vigorous masses of blue and white *Agapanthus*, the whole making an attractive picture.

Several varieties are available varying in shade of colour. One of the best is that known as the *Kew* variety, which has many more flowers in each umbel than is generally the case.

B.

The Great Lily Pond at Greenfields, Co. Tipperary.

This pond, or lake, covers about four acres and is planted all round with the leading varieties of *Nymphaeas*, as follows:—*N. alba*, *N. candida*, *N. colossus*, *N. Frobelli*, *N. Gladstoniana*, *N. James Brydon*, *N. Laydekeri*, *N. Moorei*, *N. Marlacra allida*, *N. Marlacra rosea*, *N. Marlacra chromata*, *N. Marlacra rosea*, and some others. These *Nymphaeas* are planted in full sun and in still water. Their colours embrace the most vivid crimson, the softest of pinks and roses, delicate creams and snowy whites, while others have charming blendings of more than one shade. In many cases their beauty is enhanced by prominent golden stamens, while others are fully double and resemble giant Roses.

A sheet of water like this, covered with these lovely Water Lilies, presents a sight not readily forgotten—suggesting brilliantly coloured stars spread over the water's surface, relieved by a background of handsome, rich green and bronze foliage.

They were planted here about twelve years ago, some in baskets filled with good fibrous loam and well-decayed leaf-mould, and sunk in about two feet of water. In later years we had to divide them, so we procured some good sods from a pasture near by and wired them round each crown, and then, with the use of a boat, sank them at various depths of water from two to fifteen feet, and all are doing well. Some of these are now carrying from twenty to forty blooms each.

Nymphaea alba is seeding itself freely in this pond.

All along the margins of the pond are planted all kinds of bog and water plants, from *Rumex* to *Pontederia cordata*.

Notes and News.

CANADIAN RICE (*Zizania aquatica*).

THE naturalising of "Wild Rice," as it is called, has become an established custom round the shores of many of the great lakes in America, and also about the margins of private ponds and lakes. The object in most cases is to encourage and attract various water-fowl, particularly ducks of kinds. These birds are extremely fond of the ripe seeds and come in numbers in the autumn to feed on it, affording good sport in shooting them. In the spring of this year a quantity of seed rice was presented to the Royal Botanic Gardens, Glasnevin, and in April was sown. A certain amount was sown in pots, stood in saucers of water, and was then planted round the margins of the pond where the water is about one foot deep, merely pressing the mass of roots into the mud. Much better plants have resulted, however, from merely sowing the seed in the water, allowing it to sink into the mud. Many of these plants are now four feet high, bearing large flower panicles, which it is hoped may form seeds.

If this rice could be established round the shores of the lochs and lakes of Ireland it might result in attracting some of the rarer and beautiful water-fowl which from time to time visit Ireland. It might also be a means of increasing the food supply by affording sport, as well as employment, in shooting and marketing wild ducks.

ARBUTUS MENZIESII.

Among the larger growing members of the *Erica* family *Arbutus Menziesii* is conspicuous, not only as an evergreen flowering shrub but on account of

the beauty of the stems after the bark has exfoliated in early autumn. Towards autumn the newly exposed surface assumes a light, reddish-brown colour of great beauty.

On the Pacific coast this *Arbutus* is known by the common name of Madroña and is there said to reach a height of from eighty to one hundred feet. In an account of *Plants used by Indians of Mendocino County, California*, a writer in "Contributions from the U. S. Herbarium," Vol. VII., says: "In February and March the Madroña is thickly covered with white, globular, wax-like flowers, which furnish an abundance of wild honey, and late in the fall and until the middle of January the fruit is an abundant and favourite source of food for countless doves and wild pigeons, and for barnyard poultry, especially turkeys."

As an ornamental tree for parks and gardens, the Madroña is well adapted to many parts of Ireland where the common Strawberry tree does so well.

AUCTOSTAPHYLOS MANZANITA.

THIS handsome shrub is allied to the Madroña but does not reach the same dimensions. In Ireland it is equally at home, and when furnished in spring with its many clusters of white flowers it is an attractive shrub. The branches have the same reddish-brown colour that makes the Madroña so striking. This same writer (*loc. cit. supra*) says of this plant: "This species of *Manzanita* is an exceedingly common shrub throughout the region, generally occupying wide areas, on dry, barren ridges, often to the entire exclusion of other vegetation, and in masses so thick that they are impenetrable to man. The fruit is not much more than a third of an inch in diameter and the quantity produced is very large. It was used very extensively by the Indians when the Spanish priests first settled in the country, and from the latter it received the name 'Manzanita,' which means little apple, and was suggested by the shape of the fruit. This name has been universally adopted as the common as well as the botanical specific name of the shrub. The generic name is derived from two Greek words meaning 'bear' and 'grapes.' Bears are exceedingly fond of the fruit, and it is in *Manzanita* patches they are hunted during the summer and autumn."

Much other interesting information is given regarding this beautiful shrub and its use among the Indians. It is stated that "the crooked, beautifully polished limbs are much prized by white people for fancy woodwork, and a straight *Manzanita* cane is a valuable rarity."

As this charming shrub grows well in many parts of Ireland it should certainly find a place where shrubs are grown for beauty or interest.

ECHINACEA PURPUREA.

THIS is one of the best of autumn-flowering herbaceous plants, and is an example of an old plant restored to its proper place in the garden. Long known in cultivation, the type plant has for many years been little used in gardens, but recently nurserymen have sent out two handsome varieties which will do much to bring this old plant into favour again. *E. purpurea Brilliant* has large heads of flowers, the small central flowers tubular and yellow, as in so many plants of the order *composita*, but the outer florets are deep reddish-purple, harmonising beautifully with other autumn colouring. *E. purpurea Tappin variety* is slightly paler, rosy purple, but none the less desirable, forming a handsome, bushy plant of 3-4 feet high. Both are easily propagated by division.

Reviews.

"Successful Gardens for every Amateur."

THIS is the title of a useful little brochure published by the Chilian Nitrate Committee, and is a sensible exposition of the rational use of manures in gardens. The ostensible object of the publication is to increase the use of nitrate of soda, but no extravagant claims are made for the use of this essential fertiliser by itself. Due importance is given to the proper use of other manures, particularly farmyard dung, which gives bulk and adds humus so essential for retaining the readily soluble elements. Excellent advice is given as to the cultivation of the soil, the quantities and kinds of manures necessary for healthy plant growth, the right time to apply nitrate of soda, together with the methods of application and quantities to apply.

Undoubtedly nitrate of soda, properly applied at the right time and under proper conditions, is a wonderful crop-producer, and we commend this little publication to our readers as much for its valuable information on gardening as for the reasonable and moderate claims for nitrate of soda.

Town Gardening.

By MARY HAMPTON.

THIS is one of the Home Garden series published by Thornton & Butterworth. The author is a well known writer on flowers and gardens, and in the book under notice has compiled a mass of information which must be of the utmost benefit to every town gardener. The advice and suggestions given are ostensibly for the amateur and novice, nevertheless there is much for even the more experienced professional to study with profit. A great deal of the information is the result of the author's own experience and observation, and is generally practical and to the point. It is hardly possible to touch on all the aspects of town gardening dealt with by the author, but there are few possibilities not considered. Work for the various months is outlined, with directions for accomplishing it. Many suggestions are made for the treatment of gardens in different aspects; copious lists of plants are given, and many examples are shown by means of photographs and line drawings. It is a book we can heartily recommend to anyone interested in gardening, but particularly to those in or near large cities. If we have any fault to find it is in the constant disregard of the right use of capital letters when writing generic names. Why, if the book is written at all, these names should not be correctly written is not easy to see. The olive-green binding is neat and tasteful and the print clear and easily read. We have no doubt "Town Gardening" will be well received.

The Eighteenth and Final Report of Woburn Fruit Farm.

As indicated the Report under notice is the last of a series commenced in 1897, twenty-four years ago. The series comprises the most important contributions on the science of fruit growing ever made in this country.

Conducted jointly by the Duke of Bedford and

Mr. Spencer Pickering, M.A., F.R.S., the reports are remarkable for the painstaking care with which the details of the experiments were worked out. While not a little controversy has raged round some of the conclusions set forth, yet, in the main, the results have been such as to justify the undertaking, and fruit growing and horticulture generally have benefited to a degree perhaps not fully realised.

The Report under notice opens with a brief Foreword by Dr. E. J. Russell, followed by Mr. Spencer Pickering's last report, dealing with "Fruiting in Consecutive Years," "Table Showing Summary of Results and Financial Returns from Fruit Plots."

Exhaustive tables in connection with the fruiting of various varieties are included in an Appendix, which contains also Meteorological Results from 1895-1917. On page 23 begins a list of the plots referred to in the Appendix, showing the treatment as regards pruning, manuring, &c.

As, with two exceptions, the various reports can be obtained at prices varying from 1s. 1½d. to 6s. fruit growers can easily possess themselves of a first-rate fruit growers reference library.

Allotments.

WE were judging a group of allotments recently which was such a good example of what can be done, that we here briefly record their methods. This particular group is situated in the town, but is so securely fenced that it is not overlooked from the road, and gives the allotment holders and their families a restful and seclusive garden. The whole of the working arrangements are in the hands of a committee appointed from among the allotment holders. This committee rents the land from the landlord, whose responsibility thereafter ceases, for the committee collects the rents from the plot holders and sees that the rules they have drawn up are observed. They are able, after paying all expenses, to have a surplus, which they devote to awarding prizes for vegetables and flowers. Almost every plot has a flower border, and one large bed we noticed was filled with exhibition Roses, which the plot holder—a shipyard worker—had budded himself. Vegetables were growing well in great variety. The whole place was a real garden, and a model of what a group of allotments can be.

GENERAL WORK.—Where winter Turnips have been sown they will require thinning to about nine inches apart in the rows. To encourage growth as much as possible, stir the soil with the hoe and give an occasional dusting with soot. Late crops of greens, such as Sprouts, also benefit by having the soil kept stirred about them, and this will also keep the weeds down for the winter. Beet which is not required for storing should be lifted when it attains full size, or the roots will become coarse if left in the ground. The leaves must be carefully removed. It is better to lift Beet which is full grown and store it temporarily than allow it to remain in the ground. This has been a good season for Tomatoes in frames and cold houses on the allotments. The fruits should now have the benefit of all the sunshine possible, and leaves shading the trusses removed, so that the ripening may be natural. When cold weather is anticipated what green fruits remain may be ripened in the house. Until then, the leaves and frames should be kept dry. Much can be done in September to get the plot in order. As the crops are

removed, decayed leaves, refuse and weeds should be buried, and there is usually sufficient sun to kill weeds among growing crops if they are hoed out. Peas and Beans which finish cropping should be cleared away, the weeds removed and the ground levelled down. Soil should be placed to Celery, and Leeks in trenches, as found necessary. This work is best done when the soil is dry. Parsley which was sown during the spring has not grown at all well on sandy soils. If some of the plants are now cut down they will have time to make steady growth before the winter, and prolong the supply. On plants not required for immediate use a dressing of soot is very helpful. As soon as the autumn sown Cabbages are large enough transplant them out in rows. A dwarf variety, like Flower of Spring, only needs 18 inches apart between the rows. For obtaining Cabbages early in the spring they must have time to become well rooted and established before the winter. Surplus plants not required for the present should be planted about six inches apart in nursery beds. They may be required for filling up the rows in the spring.

STORING POTATOES.—We have referred before to the proper manner in which Potatoes should be stored. No excuse, however, is offered in repeating it, as it is evident that allotment holders do not know how Potatoes should be stored, or else they are not inclined to go to the necessary trouble, with the result that considerable losses occur. This is the most important crop on the allotment, and there are many men who cultivate nothing else on the plot with the exception of a few Cabbages. The chief difficulty appears in providing ventilation in the clamp, and yet there is usually heaps of suitable material about. We kept Jerusalem Artichoke stems over the tubers before covering the heap with soil. This provides the necessary ventilation. It may be said that lack of ventilation is one of the chief causes of decay in stored Potatoes. If the Potatoes are just placed in a heap and immediately covered with soil decay is almost certain, because, as everybody knows, the Potatoes will heat, and there is no means whereby this surplus moisture can escape. Again, if there is no such covering as straw or the Artichoke tops, the after examination of the heap is difficult, as directly the Potatoes are moved by removing some for use, the soil runs down through the remaining Potatoes. The clamp should always have a thorough overhauling at least once during the winter. All decayed Potatoes can be then thrown out before they infest others, and slightly diseased tubers can be sorted out for immediate use. The crop is best lifted on a dry day, so that the Potatoes may be clamped free from soil. The Potatoes may then be laid on the level ground in a dry part of the allotment, and huge heaps should be avoided—rather long instead of high. The covering may then be placed on, but if the weather is favourable the soil need not go on for a week or so. After the heating has taken place the soil may be put on just as a slight covering, and sufficient to throw rain off. Before hard frost the extra layer of soil can be given, at the same time making a channel around the heap to drain water away.

THE FLOWER GARDEN.—Bedding Geraniums may be propagated in several ways. Where a number of cuttings is required, boxing is the quickest way, and for those amateurs without many pots, boxes are useful. When making the cuttings cut

just below a joint in the stem, and remove the flowers and lower leaves. Use sandy soil, and with a blunt dibber make the cuttings quite firm, then give a good watering with a rose can. Marguerites, Calceolarias, &c., may also be rooted in boxes or shallow frames. If the cuttings are inserted about four inches apart in sandy soil they will soon root. The lights should be shaded, at first, from direct sunshine. Another method of keeping the stock is to plant the old plants when lifted into pots or boxes. In a sheltered corner insert cuttings of Violas and Pansies. Sturdy shoots should be selected from the base of the plants. Bulbs are so much appreciated in the spring that the expenditure of a few shillings seems as nothing. Daffodils and Crocus grow well almost anywhere on the allotment, small garden, or even a window box. Plant at the end of the month or in October.

G. H. O.

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to H. B. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

KITCHEN GARDEN.

SPRING CABBAGE.—Have the ground in readiness for this important crop. Transplant the young plants as soon as they become large enough to handle, and give a good dusting of lime if slugs are troublesome. Put out Harbinger or Ellam's Early on a south border to come in a few weeks before the main beds.

CAULIFLOWER.—Make a final sowing of Cauliflowers and prick out earlier sowings into cold frames in rather poor soil. Should the compost



CEANOTHUS LEON SIMON
In the Royal Botanic Gardens, Glasnevin.

prove too rich, rank growth unable to stand the frost and cold weather is sure to follow. Keep them as hardy as possible and give air on all possible occasions. First Crop and Early London are excellent varieties for this work.

CELERY.—Continue to keep a sharp watch on all Celery plants. Where paper collars are used place another in position and add a little fresh soil. Dust over all the plants frequently with soot, and on no account must the roots be allowed to become dry. Keep the ground free from weeds.

MAIN CROP POTATOES.—During dry weather all Potatoes should be lifted and allowed a few hours to dry, then dusted with lime and stored, sorting them at the same time. Place all tubers required for seed into the trays and place in a frost-proof shed. Do not expose the ware to the light after they are dry enough to store, as they quickly green.

SPINACH.—Thin the plants carefully, allowing sufficient room for the leaves to develop. Keep the hoe plied between the rows and give an occasional dusting of soot. Keep the coarse leaves picked from the perpetual varieties.

LEeks.—Continue to add fresh soil to the Leeks. Be most careful to remove any decaying foliage, and keep well supplied with water, both clean and manure. See that no soil falls into the heart of the plant.

BEET.—As soon as the main crop Beet reaches full size they should be carefully lifted and stored in fine sand. Do not break the taproot, and twist the foliage off with a sharp twist of the hand. This early lifting will in no way affect the quality.

TURNIPS.—During the recent heavy rains Turnips have germinated well and require their first thinning; do not allow them to become leggy. Dust with soot and keep the ground well stirred with the hoe. Should September prove hot keep well supplied with water.

FRENCH BEANS.—Have the lights in readiness for Beans growing in frames in case of cold, wet or frosty nights. Where one has the convenience to grow and finish the crop the first sowing should be made in 7-inch pots and placed on an ash bottom, ready to take inside.

CARROTS.—The main crop Carrots should be lifted and stored in sand; if left in the ground too long they are liable to split, especially during wet weather. Do not place too many together or they may heat, and thus spoil. The stump-rooted varieties may be left in the ground and pulled as required.

ONIONS.—Lift and dry as soon as ripe. Where they have made a thick green neck and show no signs of ripening they are better partially lifted to stop root action, and thus cause them to finish more quickly. String the spring sown variety on wet days. Place the large bulbs of Ailsa Craig &c., on the storehouse shelves on a layer of wood wool; handle most carefully at all times. Run the hoe through the Tripoli beds and keep free from weeds. Dust over with lime occasionally to keep the worms away.

PARSLEY.—Beds of Parsley sown in the spring will be greatly benefited by cutting off the outer leaves, thus causing fresh growth to spring and stand the winter much better. Thin later sowings and keep well hoed.

MUSHROOMS.—Continue to collect fresh droppings for Mushroom beds. Turn every few days and get into good condition, rather on the dry side. Make the beds very firm and keep the house

well damped. Use a reliable spawn, also freshly cut fine loam for surfacing.

WINTER GREENS.—Keep all dead and decaying leaves picked off from all growing green crops, and support any that are growing extra strong. During the past few weeks the plants are growing too strong and will want careful watching throughout the season.

LETTUCE.—Where one has a number of cloches to spare now is the time to plant a crop of Lettuce to mature under them. Plant up any vacant frames with All the Year Round.

ENDIVE.—Continue to lift and blanch sufficient Batavian Endive for requirements.

TOMATOES.—Any fruit remaining outside will be better cut off and hung on the wires of a viney that is resting. Chutney should be made in quantity, where it is esteemed, with green fruit.

FLOWER GARDEN AND PLEASURE GROUND.

SWEET VIOLETS.—Prepare the frames and pits as soon as possible for Violets. Choose an aspect facing south if possible, and use a rich compost. Lift the plants from their summer quarters with as big a ball of roots as possible, and plant about six inches from the glass. Plant fairly close together; give a thorough soaking and keep the lights closed for a few days, till they start re-rooting. Shade if the sun is at all strong and protect the glass from frost.

NATURALISING BULBS.—Any open spaces selected for planting bulbs, &c., should have the grass mown. Have a good heap of loam sand and leaf soil prepared for the reception of the bulbs, especially in poor soil or where choice varieties are used. Avoid all stiff lines and thick masses. Try and obtain a natural effect, and plant good, bold sized groups; plant as deeply as possible, which will help to protect them from mice, &c. Snowdrops should be planted under trees and in good masses. Crocuses look well on sunny banks.

SUMMER BEDDING.—Keep the display as bright as possible by constantly removing all dead flowers and foliage. See that plenty of stock is rooted for next season. Any standard or specimen plants that require to be saved for another year should be lifted before the first touch of frost.

SPRING BEDDING.—See that all spring bedding plants are in the best of health and condition for removing to their winter quarters. When the summer display is over have all bulbs in readiness that the work may be performed quickly.

DAHLIAS.—Have protection at hand in case of frost, and endeavour to keep the display going as long as possible.

HERBACEOUS BORDERS.—Where new borders are contemplated have them well trenched and manured as soon as they can be conveniently arranged, and planted at the first opportunity.

RAMBLER ROSES.—As soon as the Rambling Roses have finished flowering cut away all wood that is not required, and carefully train in the shoots for next season's flowering.

THE HARDY FRUIT GARDEN.

STRAWBERRIES.—Complete the planting of this season's runners as soon as possible. Choose a dry day and mark off the plantation into squares, stretching the line both ways; this will be found quicker and more accurate than trusting to the single line. Where possible, protect the autumn fruiting varieties by either spare lights or cloches.

PEACHES AND NECTARINES.—As soon as the crops

are gathered, prune out all unnecessary wood, thoroughly syringe the trees with a strong insecticide if signs of Red Spider are present; expose the fruits of Sea Eagle, Princess of Wales and other late sorts to all possible light and air. If possible, fasten a few lights over the trees; this will hasten the ripening and improve the flavour of the fruits, only care must be taken to securely fasten them to the wall. Where young trees have made rank growth it would be advisable to lift them, cutting back the strongest roots and any top roots that are forming. When finished give a thorough soaking of clear water.

PLANTING FRUIT TREES.—Where bush trees are to be planted this season, make a journey to the nursery where it is proposed to purchase, ask to see the fruit foreman, and tell him exactly your requirements; he is the best judge and will give you the benefit of his experience. Have the ground in readiness so that they may be got in at once. Soak the roots and cut off all ragged ends, and sever any branches that may have been broken in transit. Plant very firm, but do not puddle the ground by planting when it is wet. In the case of taking old trees out and replanting with new ones, remove all the soil to a depth of two feet and ten feet in diameter at the very least. Should this subsoil be cold clay place six inches of broken bricks and a slate or tile directly under the tree to keep them from going down. Use the best loam obtainable in replanting, remembering it has to last a good number of years.

THE APPLE CROP.—This seems to be another unfavourable Apple season by reports issued in the *Gardeners' Chronicle*. I am happy to say we are blessed with a heavy crop, which will tax our fruit room to the utmost, and since the heavy rains they are swelling well; young trees planted during the past three seasons have had to be heavily thinned, and are making clean, strong growth. It was most noticeable that the old remaining trees, closely pruned each year, dropped a considerable amount of fruit during the hot weather, although kept mulched and supplied with water both at the root and overhead, by syringings, whilst young trees were swelling good crops. I think more than ever, after this season, that it is advisable to take out a few old trees each season and plant young ones; also give them quarters to themselves, and not by the side of the walks, as is so often done.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

CABBAGES.—Plants intended for early spring use should be planted in their permanent quarters during the month, as soon as the ground is vacant. The most forward plants may be planted on an early border for cutting in March and April. If they are to follow a crop of Onions or Peas a thorough digging will be all that is required, as the ground will be rich enough. Plant from 15 to 18 inches according to the variety.

CARROTS.—The main crop should be lifted when fully grown, as there is a tendency to split if a spell of wet weather comes on. Store the roots in a cool shed, or behind a north wall, covering each layer with sand or fine coal ashes.

CAULIFLOWERS.—Make another sowing during the month in a cold frame, pricking them off a few

inches apart when large enough, and grow as hardy as possible.

CELERY.—The cutting up should be continued when conditions are suitable for the work. It is in seasons like the present that disease makes its appearance. Pick off the affected leaves and burn them, spraying the plants with the same mixture as is used for Potatoes.

LETTUCE.—Seed sown last month will require thinning, and these may be transplanted in cold frames and on warm borders for winter use.

ONIONS.—Continue to harvest the bulbs as they become ripe; have them quite dry before storing away. Keep the beds that were sown last month clear of weeds, and where seedlings are too thick thin them out and transplant in other quarters.

POTATOES.—Continue lifting tubers as they become ready during fine days; select the seed size when picking and store separate in a cool, airy place where light can reach them. Those kept for table use may be stored in cool, dark cellars, excluding the air from them.

THE FRUIT GARDEN.

The general storing of fruit is now coming on, and if the fruit room has not had its annual cleaning this work should be done at once. All the shelves and woodwork should be thoroughly washed with hot water and the walls white-washed with hot lime. Give all ventilation possible until storing time.

APPLES in this neighbourhood are a very heavy crop in spite of the long drought, and early varieties are ripening quite ten days earlier than usual. Gather the different sorts as they become fit, handling them as carefully as possible to avoid bruising. Plums and Pears are very easily damaged.

LATE PEACHES require to be looked over daily for ripe fruits, which may be stored in boxes lined with soft wood wool covered with tissue paper.

STRAWBERRIES.—Some of the varieties were shy of throwing out runners owing to the dry weather. When the runners are sufficiently rooted continue the planting, completing the work before the end of the month, otherwise it is better left over until spring.

THE PLEASURE GROUNDS.

The flower garden will be losing its brightness and some of the beds getting exhausted; these may be cleared out and prepared for spring bedding plants. Trench the ground if possible; the results will repay the extra labour. Push on all arrears of propagation, and if the stock is difficult to make up it is a wise plan to lift a few of the old plants and pot them up for spring cuttings.

BORDER CARNACTIONS.—The layers will now be rooted and should be severed from the parent plants and left for a few days to recover the cheek before lifting. Autumn planting is to be recommended to get the best results, unless on very heavy ground; in this case pot the layers into three or four-inch pots, and winter in cold frames, guarding against dampness.

VIOLETS.—The frames should be put in readiness for these, and the plants put in towards the end of the month, shading for a few days until established, afterwards give all air possible.

SWEET PEAS for early flowering should be sown towards the end of the month. Sow in four-inch pots and grow in frames close to the glass. Bulbs should be ordered at once and planted as soon as possible, either in the beds or potted up for forcing.

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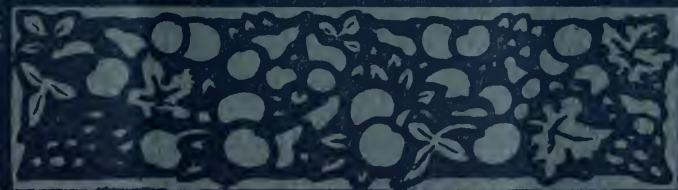
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Irish Gardening

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1921

EDITOR—J. W. BESANT

Notes from a Small Garden

By R. LLOYD PRAEGER.

THE POINT OF VIEW.



THE remarks which Mr. E. B. Anderson made in the July issue, and especially those in which he referred to my own garden, tempt me to try to justify a certain untidiness—I prefer to call it a freedom of growth—which seems to me to be allowable in the rock-garden, and which I admit I rather encourage in my own place. It seems to me that it is worth considering from what point of view one grows one's plants. That there are two points of view, in some ways opposed to each other, is clear. They may be called the Botanical and the Horticultural. According to the former, one's interest lies largely in species, developed by nature in the course of thousands of years, rather than in artificial sports and hybrids produced by the industry of the gardener; in growing the plants as nearly as possible as they grow in nature, with a minimum of disturbance or artificial aids; and in encouraging (within reasonable limits) natural spreading and seeding.

From the other point of view—what I have perhaps unjustly called the Horticultural—one's object is to grow the plants "well"—i.e., as large as possible. Care is taken that the specimens do not interfere with each

other or mix, and, in fact, the plants are fed and housed as a farmer might feed and house prize animals.

Now, this latter mode of treatment is quite proper where such wonderful artificial products as modern Roses, Sweet Peas, or Pansies are in question, but I hold that it is out of place in the case of alpine and rock plants. Treat artificial plants artificially by all means, but for goodness' sake treat natural plants naturally, so far as the necessary restrictions of garden conditions allow. I visited a well-known garden not long ago, where alpine plants were so overfed that it was difficult to recognise in those straggling monsters the

delightful crisp tufts—just like those which they produce in their mountain homes—which they assume when *properly* grown, wedged between stones with a light soil and an exposed position.

Again, while all treasures must be carefully safeguarded against oppression, natural effects will be produced by allowing the plants to ramp and mix at will, provided you stand by to see fair play.

The late Mr. Burbidge (whom no one would accuse of being an "untidy" gardener) was an advocate of mixtures: he loved to "marry" (to use his own phrase) plants—to mix their lives inextricably.

One can produce delightful mats, with blossom of some kind showing all the time, by this means. I have had, for instance, a couple of square yards of sward formed of *Acaena microphylla*, with its red fruits, Wild Thyme, a straggling dwarf Pink, and *Sedum serangulare*—a quite delightful combination, in which all the ingredients lived happily together.

Then, as to seedlings, which often come in delightful abundance when those enemies of rock plants—the rake and hoe—are banished, think twice before you pull up any seedlings. The effect of a plant is greatly enhanced if, instead of a single specimen, you have a colony, grouped naturally. If a good thing wants to annex a bit of ground, let it annex it: remove other treasures to some different spot, in whole or part. I never pull up a seedling till it has flowered, for, by waiting till then, one may secure some interesting or valuable sport or hybrid; and even then it is allowed to grow on unless it proposes to crowd out some more valuable plant. The general effect of this granting of self-determination is that some bits of the rock garden look just like the real rock gardens, the alpine plant associations, of the Alps and of our own wonderful Burren—a population of species growing as they might in nature; but it is the plant association of a dream, a vegetable Babel, for here are gathered together natives of all countries—Irishmen and New Zealanders, dark Iberians and fair Norsemen, Canadian backwoodsmen and unfamiliar strangers from the frontiers of Tibet.

Some Fruiting Trees and Shrubs.

IN a season like the present, after a summer, the driest remembered by any save the oldest inhabitants, some of the trees and shrubs which produce berries or coloured fruits have been remarkable for the prodigality with which they adorned themselves, and lasting, as they do (excepting when the birds or boys make love to them), much longer in beauty than most flowers, have proved themselves this year useful members of garden society.

In the following notes I will try to enumerate some of the more striking plants which come under this category. It is not by any means a complete list, in fact, only touching the fringe of the subject.

I do not think that member of the Sycamore tribe, *Acer Trautvetterii*, could possibly be left out by any one who has ever seen a tree plentifully covered over with its bright red seed wings. Even as I write, I can see through the window a specimen which a few weeks ago might easily have been mistaken at a distance for a huge *Embothrium* with belated flowers, and, now, although the wings have a ripened brown colour, the tree is doing its best to earn its room by the beautiful tints of its autumn foliage.

The *Arbutus*, popularly known as the Strawberry tree of Ireland, when decked with its scarlet fruit on a winter's day, is a sight for the proverbial gods. While its humble relative, the *Arctostaphylos Uva Ursi* spreading over a rock plentifully sprinkled with its bright red berries, is none less pleasing.

Of *Berberis*, whose name is legion, the first to show its fruit is that grand old stand-by of hardy shrubs, *B. Darwini*, which, with its cousin, the *Mahonia*, always berries in the freest possible manner. But, alas! scarcely have they taken on that luscious bloom upon their cheeks than the birds "get busy." Whilst from China within recent years they have come not in companies, but battalions, I would say that those who brought them all, might, please, take some of them back again. It would be only very selfish people who would want more than the following half-dozen for the purpose we are commenting upon—viz., *aggregata*, *brevipaniculata*, *polyantha*, *Prattii*, *Wilsonae*, and *viridescens*, and, for the sake of argument, I would add *viridescens fructo coccinea*, which is undoubtedly a *viridescens* seedling—though its parent must have been visited by a bee diffusing some form of *B. vulgaris* pollen.

It is a long journey, excepting alphabetically, from *Berberis* to *Billardiera* but *longifolia* of that ilk is a twining plant with indigo blue fruit as large as a respectable Marrowfat pea.

Corokia Colocaster.—A native of New Zealand, frequently called the "Wire Netting Bush," after its golden, starry flowers are over, develops dainty scarlet bead-like berries, but one has to be watchful to see them, for they vanish quickly, but where I do not know.

China, as in the *Berberis* case, has been lavish in the number of the *Cotoneaster* family which she has provided us with in recent years, and I would also curtail the number of these to the following six:—*applanata*, *bullata* (which was first of all said to be identical with *Moupinensis*) is one of the freest fruiting small trees I know, providing its scarlet berries to beautify the garden and provide food for the birds in glorious profu-

sion. *Fianchetto* will become a greater favourite as it is better known. Its graceful habit, grey tinted foliage and scarlet berries are always pleasing. *C. horizontalis* is one of the most popular shrubs of the present day, and ubiquitous in its adaptability. It will form a spreading mass amongst big rocks, a bold edging to a shrubbery, or clothe a wall or trellis work as none other, and when copiously spangled with its berries is a very pleasing picture. *Pancosa* and *rugosa Hancei* are also good. But whilst dealing with this family there are some of the older kinds, *bacifolia* or *Hookeriana*, *Simonsii*, and the mountain form of *C. frigidula*. The fruit of the latter contains some element which causes the birds to turn away in disgust, thereby leaving its mass of crimson berries to brighten the landscape from October to May. If one cares for the more sombre-coloured fruits you may add *bacillaris*, *acuminata*, *acutifolia*, *Moupinensis*, and *atensis*, all of which have dark-coloured berries. Besides those useful rock garden subjects, *adpressa*, *congesta*, and *humifusa*, there are others; but those mentioned are the cream.

Of the Thorn family there is nothing to beat our common Hawthorn, *Crataegus oxyacantha*, an old hedge or solitary tree in the winter time, especially when the ground is covered with snow, is pleasant to look at. And one knows that while the haws last the birds will not be hungry.

Some of the North American Thorns which arrived in this country a few years before the war are fine fruiters, and their 3 to 4 inch spines will prevent the boys from testing their flavour. The last Thorn to flower and the last to ripen its haws is *C. Carrieri*; it is of hybrid origin, and has fruit as big as Cherries and of about the same colour, lasting well through the winter.

The Common Spindle tree, *Euonymus Europæus*, is well known for its bright seeds when their capsules open, but the finer form, *E. Europæus fructo coccineus*, is a distinct acquisition. Some years ago I remember seeing a small bush in Glasnevin labelled *E. radicans Carrieri*, which was a mass of fruit as large almost as Cherries. Through the kindness of the Curator, who provided me with cuttings, I was able to add it to our collection, but never a cherry has it borne here, in the "Black North."

Fatsia horrida, a really horrid, spiny plant from N. W. America, is distinctly handsome, with its palmately-lobed prickly leaves (but do not touch them) and spikes of red and black berries.

The family of St. John Wort is perhaps the last one would look to for a member whose seed pods are worthy of notice, but *Hypericum glandulosum* is worth a place in the best gardens in the land. Its berry-like seed pods are first green, then red, and subsequently black. And sprays can be cut with the pods in all three colours, further enhanced by its purple-tinted foliage, a charming plant for massing in the wild or tame garden.

Who has not looked for berried Holly for the decoration of church and home at Yuletide, and so much has been written of this most useful and popular evergreen in all its forms that we will not dilate upon it.

The Laurel in several of its forms, notably *latifolia* and *rotundifolia*, when allowed to grow into well-formed specimens, will frequently be found with plentiful crops of their handsome black fruits.

Of the Honeysuckle group (*Lonicera*) there are

many of the tree or shrubby habited kinds which fruit freely, *Maackii* and *Morronii* being probably the best, but *nitida*, *pileata* and *pileata Yunnanense* are distinct evergreens which bear blue or violet berries, the last-named, so far as my experience goes, being the best; its clusters of violet, bead-like berries are entrancing.

Every boy and girl has an intelligent knowledge of the Apple, but of its family (*Malus*) I would like to mention one that came here many years ago under the name of *Molus edulis*. The late Mr. F. W. Burbidge, after tasting one of its fruits, declared that its name should be *Malus Uredo*. It bears all along its branches clusters of small fruits that colour beautifully in September, and some of our boys try them, but only once.

golden-berried form is unique as a fruiting tree, whilst *P. Aucuparia nanus* develops into an erect column of dark green leafage, amongst which its immense clusters of rich red berries are very striking.

Fruiting Roses which have excelled themselves this year are numerous, from the humble Burnet Rose with its glistening berries of almost jet black. The various hybrids of the Japanese Rose, *R. rugosa*, some with immense berries borne singly, and others with trusses or sprays of scarlet, coral, or crimson, *R. Moyesii*, *R. macrophylla*, and *R. sericea*, with their curious bottle-shaped fruits, the curious fruits of *R. gymnocarpa* that have no proper end. The magnificent fruits of *R. pomifera*, and the quaint, but not beautiful,



BERBERIS AGGREGATA.

(See "Some Fruiting Trees and Shrubs.")

The *Pernettya* is a disappointing bush in many places, but where it does well it is more than worth its room. Do not plant it in any soil that contains lime.

Photinia variabilis is a small tree, probably better known for the brilliant autumn colouring of its foliage. It bears, fairly regularly, bunches of small bright red fruits.

Pyracanthus or Fire Thorn, that up to recently figured as a member of the great Thorn tribe, has now been honoured with a family of its own. The old *Lalandii* is well known, and the newer ones will also assert themselves when their fruiting beauty becomes better known. *Gibbsii*, *obtusatum*, and *Rogersii* are excellent representatives of the new genus.

In the *Pyrus* group the members of the Mountain Ash tribe, *Pyrus Aucuparia* are ever popular. A sturdy variety that is known as *Americana* (but why I do not know) has immense bunches of large, glowing scarlet berries. The

hips of *R. microphylla*, well-named the Hedgehog Rose. Without embracing the *Daily Mail*, K. of K., or any of those deservedly popular members, this family would deserve a whole epistle to itself.

I dare say it is only known to a certain few that the Common Butchers' Broom, *Ruscus aculeatus*, is a beautiful plant when in fruit, but the plants being dioecious, the red berries can only be produced when plants of the both sexes are growing together, and it was a long while before I could tell "tother from which."

The scarlet-fruited Elder, *Sambucus racemosa*, is a handsome tree when laden with its bunches of scarlet berries resembling lobsters (when boiled). Unfortunately, the blackbirds and thrushes "go nap" on them as soon as they are ripe.

The *Skimmias*, and I was almost forgetting the *Ancuba*, are useful evergreen shrubs with scarlet berries in winter.

They come under the same category as the Butchers' Broom, and must be mated.

There was a well-known nurseryman some years ago who made a speciality of the Aucuba by growing it in pots and pollinating his female plants; and these, when in berry, found a ready and lucrative sale.

Staurocarya is a family not yet well known, but of the three species I know, *S. glaucescens* is "no good," but both *S. Davidiana* and *S. undulata* are excellent fruiting subjects, the former erect in growth, the latter spreading, and both berry freely.

Symphoricarpos, if we except the white-berried *Pernettya*, is our best white-berried shrub, and *S. racemosa laevigata* the best of the Snowberries.

Of the Whortle, Bill, Huckle, and other Berries of the family of Vaccinium, the one I select to represent them is *V. erythrocarpum*, whose berries, the size of a decent Boskoop Giant Black Currant, are first red and then a glistening, shining black, and also palatable.

The Guelder Rose Clan embraces several fine fruiting shrubs. The common Guelder Rose, *Viburnum Opulus*, is well known. The Wayfaring tree, *V. lantana*, is also good; and *V. thibetico-phyllum*, a distinctly handsome evergreen, occasionally produces huge crops of bright red berries which eventually turn black.

Of the Vine family (I must not speak of Black Hamburg or G. Colman), but will conclude my list with speaking of the beauty when in fruit of *Vitis humulifolia*. I knew it only as a fairly decent climbing plant from a foliage point of view; but one day I came on an old plant which had been thrown out at the back of a hedge and forgotten. It made up its mind to do "its bit," pushed a vigorous shoot through to the sunny side of the hedge, and finished by producing some elegant sprays of the most charming small blue grapes. Since then I have loved that plant; but, alas! it has never given me a grape since.

G. N. S.

Trial of Herbaceous Phloxes.

THE Royal Horticultural Society invites growers to send Herbaceous Phloxes for trial at their Gardens in 1922. Three plants of each variety should be sent to reach the Director (from whom the necessary entry forms may be obtained) on or before November 30th, 1921. They should be addressed to The Director, R.H.S. Gardens, Wisley, Ripley, Surrey. (Goods to Horsley Station, L. & S. W. Ry.)

Autumn at Rostrevor

SEPTEMBER is one of the best months of the year, bright and pleasant, and it introduces a display of autumn flower which renders it welcome and enjoyable; but this season has been hitherto an exception to the general rule, and the recent cold, wet, and absence of sun have conspired to make the garden more dull and uninteresting than would have been the case under more favourable weather conditions. The plants on the whole, however, have grown well, and therewith we ought surely to be amply content, even if we still regret some deficiency in the ordinary luxuriance of colour to which we are accustomed. The newly imported *Buddleia Forrestii* failed to keep its rather lax blue-purple trusses as long as usual,

but its handsome grey downy foliage and branchlets are always conspicuous and desirable in the shrubbery. *Ceratostigma Willmottii* on the other hand, is quite satisfactory, and the beautiful sky-blue flowers are well set off if planted near the bright yellow *Linum flavum*; its companion, however, *C. Polakii*, which should now be smothered with numerous small light blue star-like bloom, has been somewhat disappointing. *Datura sanguinea* has been growing here unhurt at the foot of a wall for some years, and is now fully open, with a profusion of long orange tubes ending with a red trumpet; but the canary-coloured, and, as I think, more desirable, *D. floribunda*, shows no sign of bestowing a similar favour. *Berberidopsis coadunata* is a vigorous climber bearing many racemes well furnished with bright coral blossoms about a third of an inch in diameter, as if moulded out of wax; it thrives best in some shade, and, like some other Chilean plants it detests lime. Except the more common *Clematis citicella*, the majority of that genus have done fairly well; among them *C. arvensis*, *C. Bergonii*, *C. campaniflora*, *C. crispa*, and especially *C. Flammula*, which here covers a large thorn tree; but we missed much of the fragrance with which it fills the air even at a considerable distance, and which makes it so popular and general a favourite. Among the climbers, the evergreen *Billardiera longiflora* should not be omitted, and, coming from Tasmania, it will prove hardy in many parts of the country; the flower in spring is not remarkable, but it claims attention, for at this season, and even earlier, it is covered with violet coloured berries, or rather capsules nearly an inch in length. There is another species, *B. fruticosa*, less common with equally large capsules but ivory white, which make it an interesting object in the late summer. I have found it rather harder to establish; it has produced its handsome fruit several times, but none have appeared this year.

Most of the Fuschias are autumn flowering, and add much to the beauty of the wild garden. Some are perfectly hardy, and many are likely to be successful in mild districts; among them the various forms of *F. macrostemma* are best known, but *F. cordifolia*, *F. Cottinghamii*, *F. microphylla*, *F. serratifolia*, *F. thymifolia*, and the dwarf creeping *F. procumbens*, from New Zealand, should not be forgotten; nor should their distant kinsman, *Cnapha strigillosa* be neglected—a small perennial which seems to be quite at home here. Despite the weather, there is a good deal of bloom showing, though neither *Clerodendron Fargesii* nor *C. trichotomum* have been at their best. *Acacia calumetifolia* and *A. dietrichiana* are producing many Mimosa-like yellow flowers. *Aplopappus ericoides*, *Crassula sarcocaulis*, *Hanemannia fumariaefolia*, *Nandina domestica*, and *Pimelea lavigata*, which are suited to rock work, are as good as usual; also the larger shrubs, *Itea ilicifolia*, the *Lespedeza*, *Myrtus communis*, *Olearia aricenniaefolia*, *O. oleifolia*, *O. odorata*, *O. Solandri*, *Cestrum Parqui*, *C. Poeppigii*, and others. *Hydrangea involucrata* failed to flower, an example which was not followed by *H. hortensis* nor by *H. paniculata*. The smaller *Hydrangea argentea* and *H. Richieri*, have done well, as also the larger *H. lysimachoides*, and another similar to it and also forming a dense bush introduced recently from China as No. 8626 Forrest. *Rosa bracteata* was somewhat earlier than usual, and so was *Solanum jasminoides*; both these fine species continue to bloom till the winter

sets in. Many of the *Salvias* are, moreover, autumn flowering, and are worth a trial; *S. Grahami*, *S. Greigii*, *S. neurepia* are red of various shades, but the most brilliant and the best is *S. Pitteri*, which has lived outside here, but is unfortunately more tender than those just named; *S. Betheli* is also half-hardy, pink, it has survived outside but one cannot be sure of it. The blue species are mostly herbaceous and seem hardy; the well known *S. patens* is always a favourite, and so are *S. Pitcheri* and *S. uliginosa* to those who cultivate them. Two trees deserve a passing word: *Acer reticulatum* from China, with very beautiful and distinct foliage, and the more common *Euonymus latifolius* now covered with its conspicuous fruit.

Amaryllis Belladonna, some of the forms of *Colchicum*, *Lilium speciosum*, and the Burmese *L. sulphureum* have never been more luxuriantly floriferous. *Hemantthus punicus* from the Cape of Good Hope, has been outside for some years and flowered there for the first time. But *Veratrum viride* was poor; and *Cypella Herberti*, an interesting bulb from Buenos Ayres, was a disappointment, having failed to open its curious chrome tinted Iris-like bloom, contrary to the regular behaviour of these bulbs in the past. The same may be said of *Albuca Nelsoni*, from South Africa, all the energy of the plants of this species seems to have gone into growth, and no flower-spikes are visible. *Eucomis punctata*, on the other hand, was unaffected by weather conditions. Some of the white and pink *Cyclamens* are beginning to show up well. *Antirrhinum Asorina*, which rambles over rocks, forming a carpet, is a very pleasing object at this time; and the trailing *Androsace lanuginosa* serves to brighten the moraine bed. *Lysimachia Henryi*, yellow, the handsome *Thalictrum Delavayi*, and the Japanese *Kiengeshoma palmata*, yellow, which forms a compact bush, and is a very distinct species, are now in flower—the last two later than usual, I think; while *Physalis Franchetii* is resplendent with red fruit, which look like diminutive Chinese lanterns.

J. R. OF B.

A Witch's Broom Elder.

ONE of the best "posers" in my garden is a herbaceous-looking tuft, some 3 feet across and a foot high, bearing the leaves of an Elder set on innumerable short, thin branches. It is, as a matter of fact, a diseased state of the *Sambucus nigra*. Some years ago Mr. E. A. Bowles noticed upon a common Elder a "Witch's Broom"—one of those curious nest-like, twiggy tufts that are so familiar on the Birch. These clusters, as is well known, are caused by attacks of minute fungi of the section *Ascomycetes*. The fungus lives parasitically in the tissues of the tree, and the irritation caused by its presence results in the production of numerous attenuated branches, on the leaves of which the fruiting organs of the fungus may be seen frequently as a kind of down. Mr. Bowles took a portion home for examination, not having previously seen an Elder so affected, and subsequently put the pieces in as cuttings. They grew freely, as did cuttings that I took from the plant in his garden. The fungus continues to infest the plant, so that it never forms more than a tuft, and never flowers. I am not aware that this pathological condition has been thus perpetuated in any other species which is affected by "Witch's Brooms": information will be gratefully received.

R. L. P.

Flowers that Bloom in the Gloom

GROWERS of flowers are sometimes apt to regard the sunshine as indispensable to the development of their favourites, and overlook the fact that when the sunlight has faded, there are other blossoms which open wide their petals in the hours of twilight and of darkness. Numerically, they are not many, and some of them are not particularly beautiful; but what they lack in this regard they make up in another direction. It is, as if nature had endowed them with a special attribute—viz., that of sweetness—for wherever they are grown in a garden it becomes a place where rich perfume is found in the summer evening hours. Even some of the flowers that add a charm to our gardens by day exhale their richest odours at night. The Ten Week Stock may be mentioned, and Pinks too. Shrubs and plants noted for the fragrance of their leaves are never sweeter than in the hours between dusk and dawn. In this connection we think of Sweet Briars and Lavender and Rosemary, and Thymes, old-fashioned subjects, it is true, but valued because of the perfume they emit. Specially fragrant are the blossoms of *Nicotianas*, *Rockets*, *Mathiola bicornis*, *Schizopetalon Walkeri*, *Nycterinias*, *Oenotheras* (Evening Primroses), *Veitchiana* and *Drummondii nana*, all of which are annuals, and may be sown in the open ground. We think of other blossoms that are the sweetest at nightfall, *Liliums*, like the *Madonna* (old *Candidum*), *Mignonette*, *Heliotropes*, and also *Woodruff*, whose flowers and foliage give a scent as of new-mown hay. Roses, too, pervade the air with their sweetness quite as much by night as by day. The Honeysuckle half-covering the porch is festooned with fragrant clusters, the white star-like flowers of *Jasmine* have a perfume all their own. In early summer nights, *Lilies of the Valley* in a bed

"Shed a lasting perfume, but for which

"We had not known there was a thing so sweet
Hid in the gloomy shade."

Gardens where these plants are grown become pleasant places at the close of day, and though some of the flowers are scarcely worthy of notice at noon amid those of more brilliant blossoms, it is when the sunlight dies away and they let their delicious secrets out, that we are able to appreciate most of all their gift of fragrance.

W. LINDERS LEA.

Perennial Plants for Perennial Beauty

OF all the flowering plants which lend charm to a garden, we think that those to be found amongst hardy perennials are the most interesting, greeting us as they do in the spring days, adding richness to the borders in summer, and casting their spell in the autumn ere they bid us farewell. And this ever-changing loveliness is all the more valued when we remember that it is repeated year by year, so that we have come to look for them as old friends, as undoubtedly they are, to all who truly love their garden and the treasures it contains. We are constantly meeting with people who, for reasons of economy, now plant subjects of a permanent character, instead of plants whose beauty is of short duration during the summer months. This change of front, if we may so term it, is not confined to private gardens alone, but is to be seen in public parks and gardens, where the bedding-out system once held supreme sway.

To us it is a pleasing sign that hardy perennials are becoming more popular, and it is not a matter for surprise, bearing in mind that in them we have not merely those which, by their tall habit, may be used as back-row plants in a border, but include amongst them many of a dwarf character that serve a most useful purpose for edgings. Dealing with the latter, we may mention such well-known subjects as *Aubrietias* in a variety of glowing colours, *Cerastiums*, like *arvense*, *compactum* (white), and *C. tomentosum* (*Snow in Summer*), white, "downy" foliage, and still whiter flowers. The dwarf forms of the *Gypsophila*

their own peculiar charm. *Doronicums*, in deep yellow, come in the wild March weather, and bloom not infrequently with *Narcissi*. Following soon after are *Pyrethrums*, so useful for cutting, particularly the singles, and *Aquilegias*, and whether one favours the inclusion of the more modern long-spurred varieties or the older type, with their rich rose and purple colourings, there is this to be said of each, that to the lover of blossoms for table decoration they last in a good state for a long time. May brings a host of beauties, amongst them the *Trolliases*, and *Teises* of the Flag section, and *Ranunculuses*; various



A WELL GROWN PERENNIAL PHLOX.

are not nearly so well known as are the taller sorts, as represented by *paniculata*, but in *G. prostrata* we have a pretty edging plant bearing white flowers, and a rosy pink form also. Those acquainted with the Sun-Roses—*Helianthemums*—know full well how prodigal they are with their blossoms, and how beautiful they are seen fringing a garden walk, particularly if the border itself is somewhat elevated. In the *Veronicas*, too, we have some that are most charming as in repens with pale blue blossoms. The same remarks apply equally well to Campanulas like the *G. F. Wilson*, purplish blue; *Riverslea*, rich blue; *carpatica alba*, white. In tall-growing subjects, hardy perennials offer a very wide field for selection. We turn to our own borders to be assured of the diversity of beauty, from spring's earliest days to the time when the tinted foliage of the trees bring

Poppies, too, make a garden very showy, as do Paeonies. Of sweet-smelling flowers of early summer it would be hard to find any richer in perfume than Pinks, and whether grown fringing a garden pathway or in orderly fashion in beds, the flowers are always welcome. In the long June days perhaps is the real beginning of Perennial beauty time; then Campanulas open their bells, early Phloxes and Heucheras and Thalictrums appear at their best, and thenceforward a garden where hardy plants are grown becomes a panorama of loveliness. We think of Larkspurs, and Centaureas, of Pentstemons and Erigerons, Lychnises and Alstromerias, and hosts of other things that have served us well in past years, and will do so again. Autumn has its distinguishing charms in Kniphofias, Hollyhocks, Chrysanthemums, and Michaelmas Daisies; in the hazel-like

effects produced where groups of the "gauze" flower *Gypsophila paniculata* and *Statice* are grown. Ah! it is beauty all the way where hardy plants are carefully selected and grown! Perennial plants bring perennial pleasure, too, to those who look after their requirements in dividing and re-planting them in fresh quarters occasionally. In all the departments of horticulture I know of nothing that is likely to give more satisfaction to the one who has tired of the wearisome bedding-out system than the planting of perennials, a tithe only of which I have enumerated. MERCATON.

The Drought and the Rock Garden.

THE rock garden has just passed through what is probably the most trying period within living memory. The almost unprecedented drought, coupled with brilliant sunshine and high temperatures, has laid a heavy hand on many things, and

stood the drought better than *Eizöons*. The latter did not bloom very freely, and many of them show burnt patches. The big silvers—*longifolia*, *cotyledon pyramidalis* and *McNabiana*—have come through all right, whilst the *lingulata* group (supposed to be shade lovers), are all flourishing—in particular, *Alberti* after flowering profusely, is a picture of health and vigour.

Saxifrages planted in fissures in the natural rock have suffered least of all. They have evidently got their roots deeply down where there is moisture and coolness, and are proof against any baking by a hot sun.

Petrocallis (*Draba*) *pyrenaica* looks as if it had enjoyed the heat since not only is it a brilliant green, but is covered with a second crop of blossom more abundant than the first one.

Some of the more tender shrubs, such as *Lithospermum rosmarinifolium*, *Daphne cneorum* and the prostrate Rosemary have benefited by the hot



DAFFODIL "NOBLE."
One of the best Incomps.

in gardens not well constructed the losses must be severe.

The experience, though it may have been painful, is not without value. It has justified our masters who preached deep root runs with plenty of grit and stones through the soil. Further, it has shown us how, given such a deep run, the saxatile plants are proof against a long, dry period.

Dianthus neglectus is as green and as vigorous as one could wish. It is a true saxatile plant, and invaluable for the rock garden. Some of the rarer and more difficult *Campanulas* have the same characteristics. *C. Allioni* and *C. Baineri* are more vigorous than they were last year, and seem to have enjoyed the dry conditions. *C. isophylla* is magnificent, covered with blossoms, each of which is as big as half-a-crown. The *Ethionemas* have, of course, enjoyed the heat and dryness, but the *Helianthemums* were not too happy.

Ranondias seemed to feel the parching heat most of all; their thick, succulent looking leaves shrivelled and browned until one feared they could not survive, yet they had a wonderful resurrection after two days heavy rain.

On the whole the *Kabschia* Saxifrages have with-

stood the drought better than *Eizöons*. The latter did not bloom very freely, and many of them show burnt patches. The big silvers—*longifolia*, *cotyledon pyramidalis* and *McNabiana*—have come through all right, whilst the *lingulata* group (supposed to be shade lovers), are all flourishing—in particular, *Alberti* after flowering profusely, is a picture of health and vigour.

J. HARPER SCAIFE.

Bulb Planting.

As a glance at the advertisement pages of this Journal will testify, the season for planting the majority of bulbs, tubers and corms for spring and early summer flowering is with us. As in pre-war days catalogues arrive daily, and the selections offered are ample to meet practically all requirements. It is well, having selected a firm to deal with, to make a note of requirements at once, and despatch the order. There is nothing like ordering early to get first quality, and nothing like planting early to get the finest flowers. Each according to his space will order just sufficient to fill that space and all may have an equally good display; a dozen bulbs in a small garden can give as much pleasure as a hundred or a thousand in a larger one. Each can have his drifts of blue or scarlet Anemones, and Daffodils, masses of Tulips, breadths of Crocuses, clumps of Snowdrops, or groups of stately Lilies. A hint may here be given:—When Lilies are planted—we mean the true *Liliums*, such as

the Madonna Lily, the Nunkeen Lily, the Martagon Lily, the Orange Lily, and so on—make a point of studying those that root from the stem as well as from the base of the bulb, as they require deeper planting or a summer mulch into which the stem roots may grow; the catalogues generally classify them accordingly; and, further, let the Lily grower harden his heart the first year after planting and prevent the flowers from developing by just nipping out the point of the shoot as soon as the buds can be seen, in this way the bulbs will become much stronger, and will establish themselves and prove more satisfactory in later years.

It is just as well to realise too, that Snowdrops planted at this late season are not likely to make a great display next spring. Snowdrops resent being dry for any length of time, and show it by sulking sometimes for several years. Those who would establish Snowdrops should get into touch with a grower and ask him to send the necessary bulbs when the flowering season is over, and before the leaves begin at all to decay. Planted thus they rarely fail to establish themselves at once, and flower well the following season. Even the town dweller with little or no garden may have his few pots of Daffodils, Tulips or Crocuses, or his window boxes may be gay with the same flowers supplemented by Scillas or Chionodoxas, or mixed with Wallflowers, Arabis, Pansies or other spring flowering plants according to taste. For the expenditure of a few shillings or a few pounds, according to means, we may face the winter months with the sure knowledge that the Aconite and Snowdrop, the Daffodil, Tulip and Anemone will bloom for us and gladden the opening months of the new year long before the swallows come back from the south.

B.

Notes and News.

Bouvardias. Valuable Plants for Winter Blooming.

BOUVARDIAS are useful, not merely for general decorative work for greenhouse or conservatory, but also for their blossoms when used in a cut state for personal wear, and their culture is such that those who have small houses, and manage to winter a miscellaneous collection of subjects, may depend on them. It is possibly, not generally appreciated, that it is best for them if they can be given some weeks of open air treatment, preparatory to housing them in September. This ensures wood ripening, a point sometimes lost sight of, but contributes not a little to their free flowering. If, then, for a time Bouvardias can be stood, either in the open, or in a cold frame, with the lights removed, it will help them. When so located, they must not be permitted to become dry, and to guard against this, the pots can be partly plunged in fine ashes which will conserve moisture. After their removal to the house, air should be admitted freely, anything like a close, stuffy atmosphere being avoided. So prepared, the plants will bloom for weeks in a house, kept genially warm.

W. LINDERS LEA.

Galtonias. *Hyacinthus candicans*.

BEAUTIFUL CAPE BULBS OF EASY CULTURE.

THE curiosity aroused by the sight of groups of Galtonias in bloom in a garden last summer led one to rightly conclude, that the persons who saw them, were unacquainted with the beautiful ivory white bell-like flowers. Although they are Cape bulbous plants, they are of comparatively easy culture and in warm sheltered districts may be left in the ground the year round, with no more protection than that afforded by a few leaves, or cocoa fibre over the surface. The bulbs may be planted in late autumn, or early spring, and are best suited when they can be given a somewhat light, well drained soil, and a sunny position.

As Galtonias bloom in July and August they are more effective if planted in groups amongst Gladioli, early Phloxes and Delphiniums. It has always been a matter of surprise to me that more people do not take up their culture, which is really very simple. The flowers are borne on thick stems, which need no support, and they are further enhanced by robust foliage. Bulbs are not very expensive, but it is well to lift them in the autumn in damp, low-lying localities, and replant in March, as this will be found the safest procedure. I call attention to them now in the time of their flowering in the hope that someone, not hitherto acquainted with them, may be induced to do so. I have often grown them in eight inch pots, but they do not grow so fine as when planted in the open ground, from the fact that their root space is limited.

W. LINDERS LEA.

Beshcorneria yuccoides in Flower at Greenfield House, Co. Tipperary.

BROUGHT here from England by W. B. Purefoy some ten years ago, this is the first year it has flowered. It is a native of Mexico, and is rarely seen in bloom in Ireland.

The grey-green leaves, 3 feet long by 3 inches broad, and streaked with a whitish graining, are somewhat similar to those of an Agave, though they differ in being neither thick nor fleshy, and are not armed with spines or thorns. The flower spike is about 10 feet high, and bends over in a curve by its own weight, about 6 inches in girth at the base, and tapering quite small at the end. It throws many branchlets, more than 2 feet long, and is everywhere provided at all the joints with conspicuous bracts of varying sizes.

The spike itself, the branchlets, and the bracts are all of vivid pink tint, deeper in shade in the branchlets, and the flowers that hang down from them, as well as from the end of the spike, sometimes in clusters, are dull red at the base and green at the tip, each from 1 to 2 inches long.

It is, perhaps, a more curious than an actually beautiful inflorescence. It seems not to object to a little frost, but I think it is sensitive to the dampness of our climate, and something to screen it from excessive rain seem desirable. I have covered this plant from rain from November to April every year.

PAT SCHOFIELD.

The Gardens, Greenfields,
Tipperary.

Review, Rose Gardening.

THIS is another of the Home Garden series published by Thornton & Butterworth, and written by Mary Hampden. The book is full of first-rate, reliable information on Rose growing in all its aspects, and as far as the practical recommendations go can be thoroughly recommended. We lent it to a friend who has a considerable knowledge of gardening, including Rose growing, and she gave it as her opinion that it is just the book for an amateur or for any beginner. The instructions for all the operations connected with Rose growing are given in clear, concise, readily understandable language, and nothing is omitted likely to be of service to Rose growers. The text is admirably supplemented by copious illustrations and line drawings, so that anyone can proceed to prune, plant, or to make beds with a clear idea of the correct way to set about it. One criticism we would make, however, and that is against the very complicated designs recommended for Rose beds. A Rose bed, or bed for any other flowers, should be of the very simplest outline, with as few curves as possible, otherwise the labour of clipping and maintaining the edge is enormous, not to mention the loss of effect. A little more care in the spelling of the names would add much to the literary value of the work.

Allotments.

IN some books dealing with Allotments the month of October is looked upon as the real beginning of the Allotment year. At any rate, we know of no better month for breaking up new plots, or taking in hand any vacant or derelict ones. Most land is usually in a fair condition for working at this period of the year. A plot which has been vacant during the past year will be overgrown with weeds and rough herbage. Taken in hand at present and deeply dug, and then given a dressing of lime, the winter will bring it into condition again for cultivation in the spring.

LIME.—Where it is intended to lime Plots preparations should be made during this month to obtain supplies, as November is the time for putting on lime. On most plots there is abundant evidence that the need is great. So far as plots are concerned the problem could be better taken in hand by co-operative methods, and is properly one for the Allotments Association. They could also determine the best value per ton for ordinary lime, ground lime and ground limestone. At the same time it should be said the need for lime depends on the crop. Some crops, like Potatoes and Rhubarb will grow better without a direct application of lime than with it; the Cabbage tribe, Swedes, etc., are usually the first to suffer from shortage of lime, and they show the effect by the well-known "finger and toe" or "club-root." On the other hand, an application of lime immediately before the Potato crop is conducive to scab. Apart, however, from the effect lime has on pests and disease, it has an important mechanical effect on heavy soils. Clay soils have for the most of this season been like bricks, and with rain in the winter will be sticky and sodden. Lime makes such a soil more friable, it dries more readily, and is easier to cultivate. The question is often asked—how are we to know if the soil needs lime. It may be taken for granted that if an allotment has not had lime of recent years and has been highly manured, a dressing of lime will be beneficial.

Gas lime should be applied in the autumn, or early winter, as soon as the crops are removed. Really, evil-smelling gas lime is a potent insecticide which can be used with considerable effect on pest-ridden plots. It is, also, however, poisonous to crops, and the effect takes some time to wear off, although it disappears in the course of a few weeks.

Allotments with a good supply of root crops are in a fortunate position, and it is found if some of the roots are lifted and stored they keep better. Turnips, which are full-grown, can be lifted and stored in a similar manner to Potatoes. Beet becomes coarse when left in the ground, and when the roots are large enough for use they should be lifted. Everyone knows, of course, the roots should be lifted carefully and not broken. It is also much safer to twist the tops off in preference to cutting them. The roots may then be placed in layers with the tops towards the outside of the heap, and covered over with sandy soil to exclude frost and to keep the roots moist. Carrots may be stored in a similar manner, except in this case the tops may be cut off, if desired, quite close with a knife. Parsnips and Jerusalem Artichokes are perfectly hardy, and do not require to be lifted as the roots have a much better flavour when left in the ground.

GENERAL WORK.—Seedling Cauliflowers are safer in frames during the winter. The soil should not be rich or the plants will become too vigorous and large before the planting out time arrives. Prick them out three or four inches apart, and only place the lights on in wet or frosty weather. Onions in the store should be examined and decaying bulbs removed, as a few will show signs of decay immediately after harvesting. Seedling autumn-sown Onions in beds are now large enough to be hoed if sown in drills, but, in any case, all weeds should be removed. Parsley, which with us was not looking at all well this year, has now made vigorous growth. The larger and softer leaves may now be removed, leaving the more stocky leaves to withstand the winter. If the autumn-sown Cabbages have not yet been planted out this should be done soon now. The ground lately occupied by Potatoes will do well if it is forked and levelled over and then trodden down. During September the tops of late varieties of Potatoes, such as Shamrock and Skerry were perfectly green, especially where the crops had been sprayed, but no advantage will be gained now by leaving these crops in the ground, and they should be lifted and stored as suggested in these notes last month. Late crops of Leeks and Celery may now be finally earthed up, when the soil is dry.

THE FLOWER BORDER.—We have found that in the North it is not safe to leave outdoors, during the winter, the better kinds of early-flowering Chrysanthemums. After flowering we cut the plants down, and place the roots in boxes of sandy soil, and keep them in cold frames during the winter. In the spring the roots are divided and re-planted. Dahlia roots keep quite well during the winter in a frost-proof shed; the roots should be covered with dry leaves or rough leaf-mould. Before the Geraniums are cut with frost, the plants should be lifted and potted up, and brought indoors. The beds may then be filled with Wall-flowers, Forget-me-nots and Pansies, which if done in good time gives these plants an opportunity of becoming established before the winter. At a very small cost indeed, one may enjoy the beauty of bulbs in the spring. A few Daffodils, Crocus, etc., planted now require no further attention.

G. H. OLIVER.

The Month's Work.

Midland and Northern Counties.

By Mr. F. STREETER, Gardener to H. B. Barton,
Esq., D.L., Straffan House, Straffan,
Co. Kildare.

KITCHEN GARDEN.

ASPARAGUS.—Do not cut the Asparagus growth down before it is thoroughly ripened. Keep the beds clear of all weeds, and collect any seed required for next season's sowing.

BEEF.—Lift and store all Beef as it becomes fit; twisting the tops off, and lift with the tap root intact. Store in fine sand in the root house, and keep free from frost.

CELERY.—Continue to earth up all growing Celery plants, finishing off the earliest rows. Take extra care that the soil does not fall into the heart of the plants, and continue to dust over with soot on a damp afternoon. See that the latest rows are not suffering from want of water. Should the leaf miner put in an appearance hand pick the infested parts. If the Celery fungus is prevalent make a note to treat next season's seed with formaline before sowing.

CELERIAC.—Lift the roots and store in damp sand in the root house; trim off the foliage.

CABBAGE.—Continue to plant out the latest sowings of Spring Cabbage; make good any losses from the earlier sowings. Keep the ground continually stirred with the Dutch hoe, and dust over with soot or lime if slugs are troublesome. Also watch that fallen leaves are kept cleared from the beds. Watch for damage by birds.

CAULIFLOWER.—Autumn Cauliflowers require constant watching; as soon as the curds become fit for use they should be placed in a shed for a few days; anything to save and keep the supply continuous. With a little forethought it is an easy matter to always have either Cauliflower or its hardier form Broccoli.

CARROTS.—Store all Carrots, with the exception of the last sowings of Horn varieties on the south borders. This vegetable has done much better this season than at one time appeared likely. The Intermediate and Favourite varieties have given us some beautiful specimens this season.

ONIONS.—Any bulbs of Onions still remaining out of doors should be placed in a cool house or frames to ripen at once. Continue to rope and suspend them from the roof of the vegetable house, where plenty of air can be allowed through them.

FRENCH BEANS.—Keep on the lights of the skeleton frames every night, and have protection ready in case of frost. It will be advisable to close the lights at 2 o'clock to try and catch any sun that may be possible.

LATE POTATOES.—All Potatoes should be dug up and stored as soon as possible. They will require to remain for several hours to dry before being carried to the store or clamped, whichever way they are to be stored; use a little powdered lime through the whole, and keep a sharp watch for any green or diseased tubers; pick out the seed and place thickly in trays. Send all small and unshapely tubers to the pigs. Collect and burn all haulm, and lime the ground as soon as the crop is lifted.

LEeks.—Continue to earth up Leeks as they be-

come fit; see that they are not allowed to suffer from drought.

TURNIPS.—Keep the hoe well plied between the rows of the latest sowings; in case of frost lift a few to meet immediate requirements.

PARSLEY.—Place a few frames over the prepared Parsley for winter use, keeping the lights off on all mild and dry days.

LETUCE.—Prick out sufficient Lettuce of All the Year Round variety in any spare frames. Watch for slugs.

ENDIVE AND OTHER SALADS.—Continue to blanch sufficient Endive, Chicory, Dandelion and Christmas Salad to meet all demands. Sow Mustard and Cress weekly.

SEAKALE.—Lift sufficient supplies for earliest forcings. Clean off all decayed leaves and keep plantation clean.

MUSHROOMS.—Collect manure and make Mushroom beds according to convenience and demands. Do not use fire heat unless absolutely necessary, as it dries the atmosphere.

SPINACH.—If the last sowings of Spinach germinated unevenly, lift and transplant so that the beds may be even, and of good appearance.

TREENING.—On all favourable occasions push forward all trenching; have a plan to work by, so that each plot may be ready for next season's crops. Keep the kitchen garden clean and smart; remove all decaying leaves from green vegetables; keep walks clean and well rolled and swept.

HARDY FRUIT GARDEN.

APPLES.—Apples are 14 to 21 days earlier in ripening this season, and a constant watch must be kept to pick them from the trees and store in the best possible condition. Nothing is gained by leaving them on the trees too long; one rough night and there will be untold damage. Do not store any poor fruit this season, use it at once in some form or another. One must be guided by the amount of store room and the quantity of fruit when placing in the fruit room. Peasgood's Nonsuch, Charles Ross, James Grieve, Warner's King, September Beauty, Cox's Pomona and Cox's Orange Pippin are all picked at the present date here, and to-day I find we must begin to pick practically all fruit in season till Christmas. Keep the floors well damped and a current of air passing through the fruit house; keep the temperature as low as possible at present.

PEARS.—Great care is needed at all times to give the Pears that extra fine finish that is required to bring out the beautiful colouring and fine flavour, the tendency at the present time is for rather large fruit. I well remember a number of years ago, during the time I was a journeyman to the late Lady Henry Somerset, of Eastnor Castle, saying she preferred "Pitmaston Duchess" to any other Pear for dessert. I have never met anyone else with that taste, but that lady was a fruit expert, and had a magnificent collection of British hardy fruit, as many beautiful exhibits from that garden testify. Keep all trees well watered, and go over them practically every day, gently lifting them in an upright position; if they part easy from the stem they are ready. Store in the warmest part of the room, and place in order of ripening, so that each variety may be used in its proper season. The later varieties are quite all right if left on the trees yet, a few degrees of frost not harming them. Handle most carefully at all times, and stand them on the shelves as

they grow, stalks in the air, apple stalks downwards.

DAMSONS.—Damsons which are a very light crop should be picked as soon as soft and ripe, and made into preserves and bottled. The Merryweather is by far the best variety. Damson trees may be planted as screens to orchards, but they take several years before they come into bearing, requiring very little pruning; just keep the branches thinned to allow air and sun to reach the centre.

PEACH AND NECTARINES.—Late Peaches require a little assistance to finish their crop properly owing to cold, unless weather which generally prevails at this time of the year. Any trees that are making too gross wood should be lifted and replanted, trimming the large, coarse roots. Add a good, sweet compost, with plenty of lime rubble; if suffering from Red Spider give a thorough cleansing with XL Insecticide.

CHERRIES.—Where Sweet Cherries are to be planted choose a warm wall, either south or west. Take out all the existing soil to a width of four feet and a depth of two feet, add nine inches of drainage if on cold, heavy soils. Mix up sufficient loam, adding plenty of lime rubble, and make very firm, and give a thorough soaking of clean water to settle the whole. The following varieties are good in their respective seasons.—Early Rivers, Biggarreau de Schrecken, Frogmore, Biggarreau, Early Black and May Duke. Late Duke may be planted on north walls with Morellos, but it is difficult to obtain that luscious fruit that one expects from Cherries.

TOP-DRESSING FRUIT TREES GENERALLY.—Nearly all fruit trees are greatly benefited by a liberal top-dressing of good soil and manure when they are bearing heavy crops of fruits. Notice when feeding how young roots push out of the very stems whilst the surface becomes like a mat of fibre; thorough soakings of manure water are most beneficial.

PLANTING.—Have everything in readiness to carry out fresh plantings of all fruits at the earliest convenience. The soil is still warm, and the roots will recommence action at once. Have plenty of fresh composts in readiness for completing the work quickly. Label each tree, and firmly stake.

FLOWER GARDEN AND PLEASURE GROUND.

SPRING BEDDING.—Once the summer bedding is finished clear, manure, and deeply dig the beds for the next relay of plants to form the spring display; endeavour to get this work finished quickly to enable the plants to get established before the winter weather sets in. Start at one set of beds and finish before moving away, and so on till all are planted. Do not lift more plants than can be got in before night, and if a scheme was drawn up last spring it will greatly help forward the work. Watch the colouring and keep everything in perfect harmony. I think more displays are spoiled by using too strong contrasts or colours. If one is not sure on this subject I would strongly advise the purchase of a colour chart as a guide.

SWEET PEAS.—To obtain the best and earliest Sweet Peas a sowing should be made in pots or boxes for next season. Raise in cold frames free from mice, and keep as sturdy as possible. Keep plenty of soot dusted in the frames as a protection from slugs, etc.

TUBEROUS ROOTED BEGONIAS.—Carefully lift the tubers as soon as the growth has died down; leave a quantity of soil on the roots, and place in cold

frames or fruit houses till they are resting, when they should be stored in boxes with a little dry soil scattered through them; label each variety and keep every tuber, as one generally loses a few during the winter months.

ECHEVERIAS.—Although not nearly so extensively grown as formerly these plants make good edging to a strictly formal garden. They may be stored by placing under a south wall, one on top of another forming a wall, sprinkling a little fine soil between the plants in frosty weather; place a few lights over them, thus affording sufficient protection.

HERBACEOUS BORDER.—As the plants die down shorten the growths. I do not believe in cutting hard down, as is often practised for neatness sake; although striving to keep a garden in the best possible condition one is sometimes a little too severe on these plants; the colouring of some of the stems alone is worth considering. Watch all hollow stem plants are cut to a joint otherwise water will gather from the rains and cause serious damage in frosty weather. Continue to trench and make new borders to give the plants a good start for next season.

MONTBRETIA.—To obtain the very best results from Montbretia they need re-planting every season. Lift and re-plant to 12 inches apart and about 6 inches deep in a fairly strong border. Should the ground be very wet and heavy they would be safer stored till next spring; they have



A FINE SPECIMEN OF
LILLIUM AURATUM PLATYPHYLLUM.
(See "Bulb Planting.")
P. 115.

a strong tendency to flower to the sun, so that when planting one must watch the various positions.

HYBRID LOBELIAS.—These plants are safer if lifted and replanted in cold pits during the winter, they will sometimes come through safely, and other times perish altogether. Always lift with a good ball of soil, and see that they do not become too dry; keep air on the frames on all possible occasions.

LAWNS.—Make a final mowing. Clean and thoroughly oil the machines and send away for any repairs; do not delay this operation till the machines are required next spring. Any top-dressing and alterations should now be quickly done.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

MAKE preparations for the protection of tender crops against a sharp frost which may be expected any night this month. If a covering can be erected over such plants as French Beans, Vegetable Marrows and Scarlet Runners the season may be prolonged a bit; for the latter, tiffany can be stretched along the top and sides, and for the others frame lights could be fixed over them; newspapers, too, may be brought into use, and will ward off a few degrees.

CABBAGE.—Continue the planting out from the seed-bed as ground becomes vacant; the earlier sowing is making good progress and will benefit with a free use of the hoe along the drills.

CAULIFLOWER.—As these become fit for use tie the leaves over them to protect the curds from the weather, also to save them getting discoloured. Late sown seedlings should be pricked off into cold frames as soon as large enough to handle.

CELERY.—Continue the earthing up as growth proceeds, a little at a time is the rule, always keeping the heart clear of soil.

GLOBE ARTICHOKE.—The old stems may now be cut away, and the beds made tidy for the winter. Jerusalem Artichokes may also be reduced in height to three or four feet.

POTATOES.—Complete the lifting of late varieties during the month. The seed for next year may be selected as the work goes on, and stored in a cool, airy place free from frost. The others can be housed or pitted in the open according to convenience.

ROOTS.—Beetroot, Carrots and Salsafy should all be lifted and stored in sand; late sowings of Carrots and Turnips may be left in the ground and lifted as required for use. Parsnips, too, are better left in the ground, as when lifted in quantity they get tough and useless.

RHUBARB.—The demand will not be so great for forced Rhubarb during the heavy apple crop. However, a few stools may be lifted when the growth has died down and exposed to the weather, forcing will then be much easier.

SEAKALE.—This vegetable is acceptable at all seasons, and for forcing home-grown crowns a batch should be lifted as soon as the leaves ripen off; leave them exposed to the weather for a week or two. The best Seakale is produced by forcing the crowns of permanent beds, placing pots over them and banking up with fermenting material.

TOMATOES.—Any green fruits still hanging on

outdoor plants should be cut and hung up in a warm house to ripen, the flavour will not be up to the usual, but they are useful for cooking purposes. Plants carrying crops under glass require careful attention, water with care and keep the atmosphere of the house warm and dry with a free circulation of air.

Trenching and digging may be pushed on as the ground is cleared of crops, get as much turned up as possible before the end of the year. In favourable weather keep the hoe at work amongst all green crops.

THE FRUIT GARDEN.

The picking of Apples and Peats will now be a daily duty when the weather permits; it will, in many cases, be difficult to find room in the fruit store to house the crop. I have tried late keeping varieties pitted in the same manner as Potatoes, and, providing rats can be kept from entering the pits, the Apples keep very well for a time; when space becomes available in the fruit room they may be taken inside and picked over during fine weather.

Planting operations may be taken in hand towards the end of the month, and pushed on while the soil is still warm to encourage root action. Trees planted at this time will get a hold of the ground before winter sets in.

Place stakes to such trees as require them, and prevent swaying with the wind; otherwise, when wet weather comes on, there is a puddle round the collar, and, under such conditions, root action is impossible.

Trees that were marked for root pruning may be operated upon, completing the work if possible before the end of the year.

STRAWBERRIES.—Any runners pushing out from the young plants in new plantations should be cut away to throw all the strength of the plants into making strong crowns for fruiting next year. Keep the hoe through the drills occasionally to keep weeds in check.

THE PLEASURE GROUNDS.

This is a busy month in the flower garden preparing for a spring display. Get the planting of Wallflowers, Myosotis, Sweet Williams, Aquilegias, Polyanthus and other plants used in the beds and borders completed as quickly as possible to enable them to get established before hard weather comes on. Any alterations or improvements in the flower garden and pleasure grounds should be taken in hand now, as the soil is generally in fair working condition, and favourable to the production of roots. The lifting and replanting of shrubs may be proceeded with from the middle of the month onwards, or as soon as they can be moved with safety. Give them a thorough watering as soon as planted, placing stakes to those that require support.

Geranium cuttings that have been standing in the open should be lifted into a cool airy house where plenty light can reach them. Clean off any damp leaves, and water with care during the winter months.

Rock Plants should be kept cleared of falling tree leaves, as if these are left to accumulate over tender subjects many of them are sure to decay.

Grass mowing will be nearly over for the season, but the lawns will require regular sweeping and rolling to keep them in good order. Before putting away the machines, have them properly cleaned and oiled, and should any repairs be necessary this is the best time to have it done.

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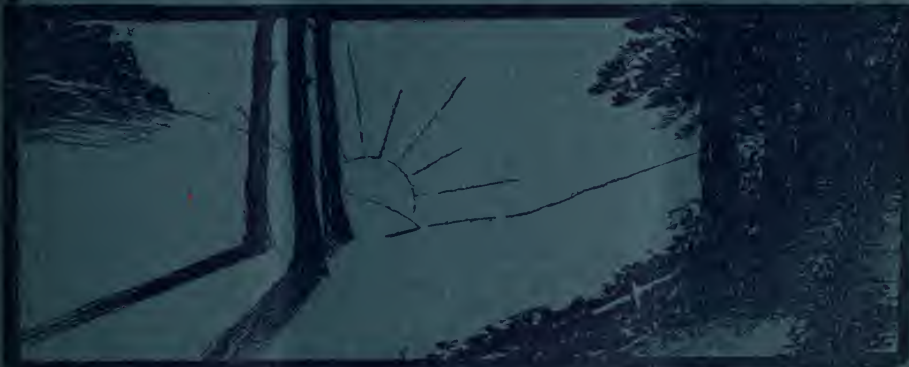
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NOVEMBER

1921

EDITOR—J. W. BESANT

Orchard Planting

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GARDEN

FRUIT-GROWING as a paying proposition has been criticised from time to time. Uncertainty of cropping, diseases and pests, spring frosts, high freightage, and foreign competition are a few of the causes advanced to discourage fruit-growers. But surely similar causes can be advanced against almost every other farm crop. It is true the fruit-grower has a great deal to contend with. His work, if intensely interesting, is hard work. He must bear disappointment and be prepared to wait, sometimes eight to ten years, before a satisfactory return for his outlay is forthcoming.

Pears and Plums, except for very sheltered and early situations, cannot be recommended for orchard planting in this country. The apple, however, can be grown, and very successfully, too, judging from the beautiful fruit exhibited at the recent Show of the Royal Horticultural and Arboricultural Society at Dublin. Intending fruit-growers must guard against over-confidence, and must not leave anything to chance. No branch of husbandry demands more foresight and intelligence than fruit-growing. Partaking of the nature of a permanent crop which may occupy the land for thirty, forty, or sixty years, success largely depends on doing things rightly at first. Expert advice should be obtained, and the questions of site, rainfall, shelter, market requirements, labour, varieties, &c., must be gone into thoroughly before any expense is incurred in planting. Soil influences the colour of fruit—for example, in the Suir valley, Kilkenny and Tipperary, the most beautiful coloured fruit is grown. Much may be learned from visits to gardens in the district, not so much with the object of growing similar varieties, but with a view to noting the health of the trees, freedom from diseases, &c. If the orchard be at a distance from markets, proximity to a railway is an important factor; so, too, is labour supply. A district where labour is plentiful is to be preferred to a thinly-populated area.

SHELTER AND SITUATION.

Protection for the orchard is most essential—a natural one already established for preference; but if this does not exist, a shelter belt of spruce, larch, Austrian pine, or other suitable trees must be provided. Plant the shelter belt at a distance of 50 to 100 yards from the fruit trees on the windward side. Damsons planted on the side of the boundary fence will give an additional protection. A good situation for the trees is one having a south-westerly or south-easterly aspect, with a

gradual rise in the ground. Flat, low land is subject to mists, and should be avoided if possible. High, exposed sites are not suitable, nor is low-lying, damp ground nor peat. Trees are sometimes grown quite successfully on what would appear unfavourable sites, but in such cases shelter and soil are all that can be desired.

SOIL PREPARATION.

If the ground is inclined to be clayey and wet, it should be drained. There is less tendency for trees to canker or fruit to become spotted where the drainage system is perfect. A good medium loam, rather inclined to be heavy on a clay subsoil, is excellent for fruit trees. Good wheat land is good fruit land. The best preparation of the ground is a crop of potatoes which will leave the surface clean and almost ready for planting in the autumn, say November and December. To facilitate the planting, the ground should be marked out beforehand by placing stakes thirty feet apart around the sides. If a plough be run lightly upwards and across, in line with the stakes, the ground will be neatly and quickly marked.

WHAT VARIETIES TO PLANT.

The large grower, who has to market in quantity, prefers a few varieties. The fewer the better in his opinion. Bramley Seedling and Newton Wonder are two standard varieties which have given satisfaction in the past. The former is most extensively grown in this country, and is a heavy cropper. Newton Wonder has not always done so well. Nevertheless it is an excellent apple, and where it is known to do well should be planted in preference to the Bramley. Bismarck is a good January apple which in certain districts colours well—a valuable asset for marketing. Lane's Prince Albert comes into use in February and March, and is an excellent late cooking fruit. Like Bismarck, it will not do in every district. The tree is a dwarf grower, very fruitful, and is generally planted between larger growing varieties. Early cooking apples should not be touched, but Worcester Pearmain, a good coloured dessert, sells well. King Edward is well worth a trial. A late keeper like Bramley, it appears to be a coming apple. In the Armagh districts, two varieties—Royal Jubilee and Royal Codlin—have been extensively planted by the fruit-growers. Both are late blooming trees, heavy croppers, and the yellow-coloured poor quality fruit comes into market in October and November.

TYPE OF TREE TO PLANT.

All apple trees are worked on the crab and paradise stocks or on a closely-related stock. The crab is a long-lived stock, but not so fruitful in the early years as the paradise. The strong-growing orchard trees should be on this stock. The paradise is a weaker-growing stock, more fibrous-rooted, and having a dwarfing effect on trees, it brings them more quickly into bearing. The best type of tree to plant in an orchard is a half-standard, two-year-old tree on crab. This should

DISTANCES BETWEEN TREES.

The system of planting half-standard trees 24 feet apart with a dwarf grower between is good enough for small areas where there is sufficient labour to work the plot, the idea being to do away with the small trees when the standard ones require more space say in twenty or twenty-five years. Now that motor labour is becoming more general, even in orchards, a good deal more space may be allowed. Thirty feet between the rows and fifteen feet between each tree in the row is not too much. A dwarf-growing tree should be planted alternately in the row. This will allow plenty of room for the large trees to develop fully.

PLANTING AND AFTER-TREATMENT.

November is the best month to commence this work, but any time till the end of February will do if the soil is in a workable state. In planting, keep the roots almost on the surface, and cover with some of the surrounding soil; stake the tree and tread the soil firmly. In the following April or May give a good mulch of manure over the roots to keep them moist in dry weather and help the tree to re-establish itself. Prune soon after planting; use the knife boldly, and shape the growth by cutting back to an outward bud. Keep the ground about the trees cultivated. It must not be thought that the ground is being wasted even though the trees are not paying. The space between the rows can be cropped for several years and made to pay the expenses.

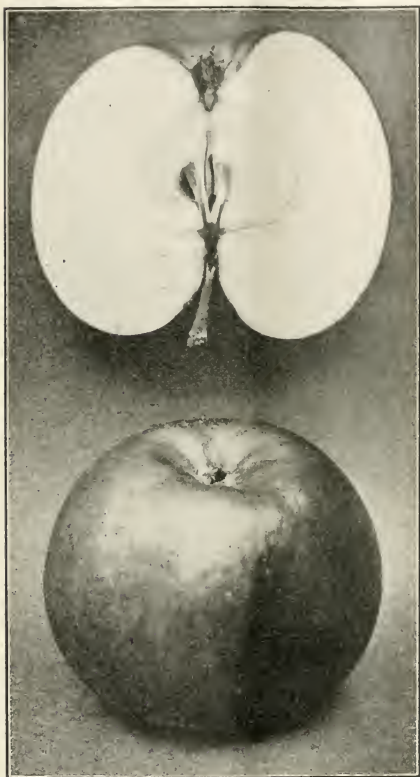
GEO. DOOLAN.

Bush Fruits.

BUSH FRUITS.—Currants, Gooseberries, or other dwarf trained trees that are not satisfactory should be rooted up and destroyed, and every opportunity should be taken to get the ground prepared in advance for planting. The ground should be deeply worked and well manured, unless it is in a suitable condition already.

The planting of Currant bushes should be completed as soon as possible. The best time to plant is when the leaves begin to fall. They thrive best in a rich, deep loam. They will grow satisfactorily on moist land, but the soil should not be water-logged. Seasons like the past, which was very dry, they did best where they were planted between rows of apple trees, which provided them with partial shade. Rows of currants are also useful for dividing vegetable quarters. The usual distance for planting is six feet apart each way. Make the holes sufficiently wide to allow the roots to be spread out. Avoid placing the latter too deeply, and never do the work when the soil is wet. Scatter some of the finer soil among the roots, and then tread gently. Trees that are lifted carefully, suffer very little by their removal. The ground occupied by Black Currants should be disturbed as little as possible, as the young roots are near the surface. A dressing of decayed manure used as a mulching will produce good results. The best varieties to grow are Boskoop Giant and Seabrook's Black.

Red and White Currants should be always grown on clean single stems, as then there will be less trouble from suckers. They do not require as rich a ground as Black Currants, and they



APPLE, LORD LAMBOURNE.

Awarded the Bunyard Cup as the most meritorious variety shown this year. Raised by Messrs. Laxton from Jas. Grieve x Worcester Pearmain.

give a clean stem of three to four feet above ground. It is an advantage also, where horse and motor labour is used, to have all the trees on clean stems. Maidens, or one-year-old trees, are sometimes used in preference to older trees, the grower training the tree himself.

should be planted 6 feet each way. They are most useful for growing on a north wall, as they will give late fruits, and thus prolong the season.

The best varieties of Red are Raby Castle, La Versaillaise, and Goliath. White varieties are White Dutch, White Versailles.

Gooseberries should be grown on single stems. The ground should be deeply worked and manured, and, if possible, plant on fresh ground in an open situation, 6 feet apart each way. The best varieties are Windham's Industry, Crown Bob, Keepsake and Whitesmith. Great care is necessary in getting Gooseberry bushes from a reliable source owing to the American Gooseberry Mildew, which, if it gets into a plantation, will give a lot of trouble before it is banished. The same care is also necessary with Black Currants owing to the Mite.

Hardy Geraniums for Border and Woodland

THOUGH the hardy Geraniums comprise a race of plants of great beauty, wide divergence of size and habit, and easy culture, many of them are not seen as often as they might be in our gardens. With *G. pratense* in its several forms, the violet-purple *ibericum*, now giving us its fine autumnal leaf-colouring, and the brilliant rock garden *sanguineum* we may be familiar, and excellent they undoubtedly are when put to the right use; but there are others, others equally fine, others finer, and it is to these that I would draw attention here, with the hope that those amateur gardeners who do not know them may speedily make their acquaintance.



GERANIUM ARMENUM.

RASPBERRIES.—Fresh ground should be prepared for Raspberries, and it should be deeply worked and well manured; make the ground firm by treading. Plant in rows 4 feet apart and 18 inches to 2 feet apart in the lines. The canes should be tied loosely to keep them from blowing about. Cut them back to within one foot of the ground in February, so as to get strong fruiting canes for the following year. The surface should only be lightly hoed to keep down weeds. During the autumn thin out the canes to the desired amount; this will give the remaining canes plenty of air to ripen them. A surface dressing of spent hot-bed manure is best as it is mostly composed of rotten leaves. The best varieties are Superlative, Pyne's Royal, and Bath's Perfection.

EDWARD RUTHERFORD,
Farnham Gardens, Cavan.

Roses.

WE hope to publish, next month, an interesting article on "Scented Roses."

The subject of my photograph (*G. armenum*) is one of the most gorgeous. A bold, hardy plant, whose 3 feet to 4 feet branching stems will often make a dome of striking colour nearly a dozen feet in circumference, and one that will continue in flower from midsummer to the end of August. The blossoms are about $1\frac{1}{2}$ inches across, and of a most brilliant crimson-majenta, which might be almost harsh in tone were it not for the radiating veins and conspicuous eye, both in lustrous black. *G. armenum* is, indeed, a sumptuous Oriental, yet one that is perfectly hardy and amenable to any ordinary border treatment.

More uncommon than the foregoing, and of rather lesser stature, is *G. anemonifolium*. This species is quite distinct from any other. Since it comes from Madeira, it is not absolutely frost-proof; still, it will stand several degrees of frost, and in most of our milder counties will flourish unprotected and sow its own seedlings. Instead of dying-down, like most of the larger Geraniums, this species remains in leaf the year round. From a short root-stem it throws out its great fleshy, pal-

mate leaves, and from early June to the end of summer will put up strong but graceful flower stems, which, branching into several heads, bear a succession of large blossoms of a most delicate rosy-crimson hue. *G. anemonafolium* enjoys a fairly cool soil, and by no means objects to half shade. It is a perfect woodland plant where it is not too thick overhead, and is the better for some shelter from wind, for with too great exposure in winter it is liable to shake loose or break off at the neck.

Another first-rate species for a cool spot and moist soil is *G. wallichianum*. This is a semi-prostrate plant which sends out many branching stems which will often cover two or three square feet of ground and produce an abundance of flowers from July, or earlier, until we are well into autumn. These blossoms are unlike those of most of the clan, for they are round and almost flat, or saucer-shaped, and in the best forms they should be a clear blue with a white centre. The finest *wallichianum* of this description is undoubtedly that known as "E. C. Buxton," the flowers of which not only approach the lovely blue of the nemophila, but closely resemble that pretty Californian in shape, though they are considerably larger. This plant should never have full exposure to hot sun if the colour is to be seen to perfection, but it is an easy deer in any well-drained soil that does not dry-out too quickly in summer. Like others here mentioned, it is a true perennial, and easily propagated by seed sown in the open.

G. grandiflorum of the true type is a splendid border plant, hard as nails, and one that will do well year after year if left undisturbed. The flowers are very large, about 2 inches across, bowl-shaped, and of a rich purple at the eye. There are, however, several forms of this, as of so many other hardy Geraniums, and some of those with bluish-purple blossoms which appear a cold, pure blue in the evening light, are very charming. The height is about a foot, and the plant looks best when in groups.

That pretty Pyrenean, *G. Endressi*, is well worth a place in border or woodland. It is in stature a link between the tall kinds and the rock garden dwarfs, practically evergreen, and one that is a certain bloomer, providing an unbroken succession of soft, but bold, pink flowers from the later summer until the very brink of winter. It hybridises freely with *G. striatum*, and when these two are grown anywhere near one another one may rely upon any number of self-sown seedlings of infinite shades of rosy pink.

I have mentioned the glorious *G. sanguineum*, but here again one may find many forms, some being larger and bolder in growth than the native species, others smaller with larger blooms, and yet a few of semi-trailing or prostrate habit—all of them good. Nor can one omit to mention the very fine white variety, the exceptionally dainty little *G. Lancastriense*, and the easy, good-tempered *G. Lowii*. This last (a biennial) has been described as a "gigantic Herb Robert," and perhaps truly; but it is such an accommodating plant, sowing itself freely year after year and flourishing under almost any conditions that one cannot fail to have regard for it that approaches admiration.

A. T. JOHNSON.



Notes from a Small Garden.

By R. LLOYD PRAEGER.

"Novelties."

I SUPPOSE it is because I am interested in botany rather than in horticulture, and consequently find more attraction in the species which nature has produced in fifty thousand years than in the crosses which gardeners have produced in five minutes (by the simple process of transferring pollen), that I incline to look upon "Novelties" with preliminary suspicion. Perhaps it is also because I have tried so many of them and found so few to be any improvement on old and much-loved favourites. I am again thinking not of florists' "stuff," but of material for the rock garden. Of course, many most interesting species have been introduced in recent years, notably from China; but few nurserymen can resist a new name, and so the wary gardener waits till he has seen the "novelty" before ordering it at five or ten shillings. Then, again, the hybridizing stunt tends to fill catalogues with new names, though the plants have mostly but little of novelty about them. Take the nondescript army of hybrid Saxifrages. Very few of them is a whit better in any way than the parents, which possess, moreover, the glamour which always appertains, and properly so, to a natural species; a creation which is bound to be an object of intense interest to the thinking man.

Darwin explained the distinctness of species and absence of intermediates by the statement that the latter tend to die out in nature. So they ought to, and the gardener will often confer a boon by assisting the process. If a dowdy pinky-gallery thing, half way between a *Kabschia* and an *Engleria*, is the best we can do, then let us pray heaven for a wiser heart, and let the hybrid Saxes go. I know a lot of this is rank heresy, and, for the sake of provoking replies, I have pitched it in strong, but my sympathies are with Owen Seaman when he writes:—

"Howe'er it be, it seems to me

It's not important to be New;

New art would better Nature's best,

But Nature knows a thing or two."

Rock Garden Paths.

I THINK most people will admit that a gravel path is out of place in the rock garden. The surface of a rock garden should consist of either stones or plants, and the paths should be no exception to the rule. A neatly gravelled path recalls box edgings and rows of Wallflowers and Lobelias, or green velvet lawn with a mathematically straight edge to it—all admirable in their way, but the very things one wants to get away from in the rock garden. Of course, in public places, like Kew and Glasnevin, you cannot get away from a well-defined path; if you made the paths part of the rock garden you would have philistines tramping all over the plants and sitting on the stones. But in the private rock garden, be it large or small, a natural treatment is possible. In Mrs. Greer's ample garden an attempt is made to imitate the rough stony tracks that one actually finds on the mountains; and when their

edges get covered over by natural seeding and spreading—as I expect they are by this time—the effect should be excellent. But most of us have to limit the dimensions of our paths in order to have more room for plants. Then we have two alternatives—either to use flat slabs of stone, preferably irregular and discontinuous, or to cover the paths with carpets; or the two plans may be combined. In either case the effect is good. Your rock garden, instead of looking like an archipelago, with narrow straits of gravel, stretches continuously over its miniature hills and dales. I began with narrow gravel paths, but soon found that plants were quite willing to invade them and hide their nakedness. Four species I have found especially useful, growing away year by year, and not minding the tramping a bit. These are: *Epilobium Hectori*, *Acaena Buchananii*, *Cotula squalida*, *Bellium bellidoides*. Each makes a carpet of a different tint—copper, grey-green, brown-green, and fresh green, in the order named—and the more they are walked on the neater their growth and the more vivid their tint.

Wild Thyme—purple, pink, or white—is also suitable, and the tiny yellow-flowered *Oralis* (? *O. corniculata* var.)—but in some gardens this tends to become a troublesome weed. Several other dwarf *Acaenas*, such as the crimson-fruited *A. microphylla*, are as useful as *A. Buchananii*, but care must be taken to use only those species which do not possess barbed seeds.

Lapagerias.

Lovely Greenhouse Climbers.

THE attraction of a greenhouse or conservatory is considerably enhanced by the creeping and climbing plants growing under the roof. Sometimes one notices how Roses are appreciated, cultivated in this way. Passifloras, Cobæa scandens, or Clematises. One of the most beautiful subjects under glass is the Lapageria, and when in a healthy, vigorous state, it never fails to provide blossoms that are as lovely as they are unique. Unfortunately, though its culture is not difficult, once its requirements are understood, it is not popular with the majority of people who own greenhouses. This is possibly owing to wrong ideas concerning it, many conceiving the notion that it is a climber more suited to the warm and moist conditions of a stove rather than the temperate to be found in an ordinary greenhouse.

Nothing could be further from the truth, as it is when growing in a cool environment that its flowers develop best, and, if kept free from frost, may be grown in an amateur's greenhouse just as successfully as in any other, provided certain rules governing the culture of this superb flowering creeper are observed.

In the first place, it is essential that Lapagerias should be given the right sort of material in which to grow, and it is the disregard of this very necessary duty, where failures with them may be directly traced. Good fibrous peat, a little decayed loam, coarse silver sand, charcoal broken up, and, above all, ample drainage must be provided in the shape of crocks, or pieces of brick, and this should be carried out, no matter whether the plants are grown in pots or tubs, or, as is sometimes the case, in a border inside the house. Special watchfulness is needed in the spring, when the young shoots are emerging from the soil, as the shoots are not only succulent and brittle, and easily broken, but they are liable to

be attacked by slugs that find their way into a house where Lapagerias are growing. If it is possible to select a house where the sun leaves it for part of the day, and is cool and partly shaded, better results as a rule can be achieved than with plants growing in a house facing south. In that case it will be necessary to adopt some method of shading. If trained from a roof, a space of nine inches or so ought to be left between that and the rafters. A cool, moist atmosphere is best for them, and syringing greatly helps to keep them free of insects, and promotes healthy growth.

Lapagerias do not require very much in the way of pruning, beyond thinning out old shoots after the plants have done flowering. The flowers (white, also rose) are long or tubular, and are strikingly handsome when seen hanging from between the foliage over one's head in a greenhouse. As we have remarked, Lapagerias are not difficult subjects to deal with when their wants are known and understood, and it is mainly those who have tried them and failed to give them a proper medium in which the roots are happiest, who jump to the conclusion that non-success is due to insufficient heat. We have only to add that given a right start and a fair trial, few creeping plants give more pleasure when the blooming stage is reached, and in a cool and shady house this may be prolonged.

W. LINDERS LEA.

Notes and News.

A DELIGHTFUL BOOK.

I HAVE recently read a book which ought to be in the library of everyone interested in gardens and plants.

It is entitled "Henry Nicholson Ellacombe: A Memoir," and is edited by Mr. Arthur W. Hill, the Assistant Director of the Royal Botanic Gardens, Kew.

In his preface the editor says:—"The compilation of the Memoir is mainly the work of Mr. W. J. Bean and myself," and right well have they done—a work for which both gentlemen are eminently fitted.

Although published in 1919, it seems to me that the book is far too little known. The late Canon Ellacombe, as many people know, was not only a brilliant scholar, but a brilliant gardener as well, and his garden at Bitton was a storehouse of rare and beautiful plants, and for years the Mecca of all who truly love plants.

Many of the Canon's friends have contributed to the Memoir, and their contributions show how keenly the Canon worked at perfecting his collections and how he welcomed to Bitton the true gardener.

Through the courtesy of the editors of various magazines numerous papers by Canon Ellacombe are reproduced, notably "Field Names," "Church Restoration," "House Mottoes," "Roses," "Piora," "The Muscra Pass," and a "List of Garden Plants grown at Bitton in 1830."

Much more could be said of the Memoir; the Canon's "Travels Abroad" is a chapter full of interest, and, to Irish readers, the account of his journey in Ireland in 1882 has a special interest in the light of present-day conditions. Having enjoyed the book, and felt, perhaps, something of the Canon's enthusiasm and something of the grief of his friends at his loss, I recommend other readers of IRISH GARDENING to give themselves the pleasure of reading it also. B.

*Lilium philippinense.*Var. *Formosanum*.

SEEDS of this beautiful Lily were received at the Royal Botanic Gardens, Glasnevin, in March, 1919. They were collected by Mr. E. H. Wilson in Formosa, and were presented to the Gardens by Professor Sargent, of the Arnold Arboretum, U.S.A.

Sown at once, they germinated freely, and when large enough to handle, were pricked out into

were produced from the apex of more than one stem, the weaker stems only bearing one flower, which was removed to strengthen the bulb. The flowers, each carried on a long stalk, are large, with much reflexed segments, pure white within, the segments flushed with reddish purple on the outside, most pronounced on the three outer segments. The flowers are delightfully fragrant, and, as the constitution of this Lily seems good, it will probably become popular with lovers of good plants.

B.

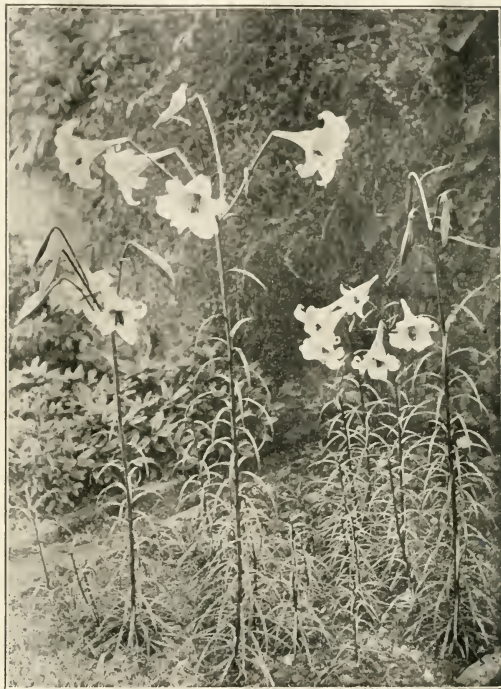


Photo by]

[E. V. Miller

*LILIAM PHILIPPINENSE, VAR. FORMOSANUM.**In the Royal Botanic Gardens, Glasnevin.*

pans of light sandy loam and peat, and were grown on in a cool house during the summer. The following spring (1920), when just beginning to grow, they were transferred to a shaded bed out of doors, in a soil composed of loam and peat. Here they grew strongly, and made fair-sized bulbs, the leaves dying away in late autumn. In spring of this year they again started well and grew strongly throughout the warm, dry months of summer, and early in September several had reached a height of between three and four feet, and soon formed flower buds. These opened slowly but steadily, and, as may be seen from the accompanying photograph, from five to six flowers

Trial of Gooseberries at Wisley.

THE Royal Horticultural Society will carry out a trial of Gooseberries at their Gardens at Wisley during 1922 and 1923. They will be judged for their value for market purposes as well as for private gardens. The Director will be glad to receive varieties for trial (3 plants of each of which should be sent to reach him by November 30th), and will be pleased to send the necessary entry forms on application, addressed to him at R. H. S. Gardens, Wisley, Ripley, Surrey (goods by L. & S. W. Ry., Horsley).

Notes from Rostrevor.

DURING the past month the weather has improved very much. There has been more sun and heat, and the effect was soon seen on the plants. *Clerodendron Bungei*, by far the best of the genus, red buds in large bunches opening pink, a very handsome and vigorous shrub, is as good as usual. So also are *Ceratostigma plumbaginoides*, blue, darker in colour, and smaller than *C. Willmottiae*; *Veronica macroua*, distinct with long drooping white flowers and curiously crumpled leaves; *Escallonia floribunda*, and *E. monteridensis*, the former earlier than the latter, but very like each other, white, and probably varieties of the same species; *Nesaea salicifolia*, yellow; *Sterea salici-*

All the above plants flowered well, and also *Colquhounia vestita*, fairly well, an interesting shrub from North India allied to *Salvia*, orange-red. *Grevillea sulphurea*, yellow, may, moreover, be added to the list, as it has been in constant bloom for the past few months. But some others which ought now to be at their best, have not been quite so satisfactory: *Bursaria spinosa*, white, from Australia (*B. Pantoni* did not flower at all), *Magnolia grandiflora*, *Perowskia atriplicifolia*, and *Zauschneria californica*—the last two suited to rock-work. The small tree, *Orydendron arboreum*, allied to *Andromeda*, with long leaves that taste like sorrel, flowered sparsely, bunches of Lily of the Valley; and the same may be said of *Polygonum equisetiforme* and *Platycter*



STERNBERGIA LUTEA—THE WINTER DAFFODIL.

folia, half hardy, from Mexico, white; and *Caryopteris Mastacanthus*, powder-blue, from the Far East, one of the gems of autumn. *Buddleia auriculata*, from South Africa, was somewhat earlier than usual, and its charm is not so much due to the small sulphur-coloured trusses which cover it as to the delightful fragrance with which they fill the air in its neighbourhood. *Eupatorium weinmannianum* is also from Mexico, and appears to be quite hardy in the milder districts of Ireland. A bush some fifteen feet high is now a striking object, and the more so since it attracts the butterflies and shows them off against the white bloom disposed in many wide corymbs. These beautiful insects became very plentiful directly the weather mended, and the Admirals were far more numerous than I have ever seen them before; they were to be seen everywhere, literally in hundreds. The other butterflies, Peacocks, Tortoiseshells, &c., were also represented, but the Fritillaries were still absent, and I have hardly seen more than half-a-dozen this year.

arguta, a rather rare small shrub from Japan. *Indigofera penduliformis*, a new introduction, has just flowered for the first time, but whether out of season or not I am unable to say, as I know so little of the species: it is mentioned because it is likely to be an acquisition. *Rhabdanthus Solandri*, of the Gesneria Order from New Zealand, produced very little bloom at the proper time, in summer, but is now making up for it by displaying many orange-red bells netted black, an inch long; it is a small, half-hardy, and very desirable plant for any garden where it can be established; it has been outside here for two or three winters. Some of the *Clematis* should be noted: *C. buchaniana*, not as good as usual; *C. Pitcheri*, *C. paniculata*, very floriferous and late; *C. tangutica* and its variety, *obtusiuscula*, better than the type. *Arundo conspicua*, a reed from New Zealand, throws up large white plumes, and is somewhat like *Coriaderia argentea*, Pampas grass, only some weeks earlier than the latter, which is now developing its handsome inflorescence.

Apera arundinacea is another interesting grass from New Zealand.

Some of the trees are beginning to exhibit their autumn colouring, and among them the common Horse Chestnut, *Æsculus Hippocastanum*, *E. flava*, *E. parviflora*, and the wild Cherry, *Prunus Arium*. *Cercidiphyllum japonicum*, however, was hardly up to the mark; but *Acer saccharinum* became a magnificent combination of crimson, orange, and yellow. *A. latum*, *A. striatum*, *Cedrela sinensis*, and *Juglans rupestris* turn a good yellow. More brilliant is *Carya alba*, golden with a slight tinge of orange, truly beautiful and conspicuous at this time. *Quercus rubra* is russet-red, *Q. cuneata*, a far more distinct red, and *Q. coccinea* is becoming a wonderful scarlet. *Cornus florida*, a shrub, also takes many rich tints of various shades. The fruit, moreover, is ripening and adding interest to the woods. The common Rowan tree, *Pyrus aucuparia*, is always bright in autumn; and its variety, *fructu luteo*, is to be commended, for the berries are like old gold. Smaller individually, but in much larger clusters, are those of *P. eschertiana*, a new introduction, red; they are also red, highly polished, and shining, on *P. sambucifolia* and on *P. matsumuraana*, while the leaf of the latter seems to be turning a fine dark shade of purple. The berries of *Coprosma propinqua* are white, of *C. lucida* semi-transparent orange, of *C. robusta* red, and of *C. acerosa* transparent tinged blue. They are also transparent on *Lonicera translucens*, but slightly suffused with white. Of fruiting Berberis, *B. brachypoda* is the best at this moment; many of them are not yet ripe. *Cotoneaster bullata* and *Symphoricarpos laevigatus* are now laden with berries, the former red, the latter large and pure white—a far better plant than the ordinary *S. racemosus*. *Rubus rosifolius* is bearing raspberries that look like strawberries, but the birds seem to be rather fond of them; it spreads well even in rough ground once it is established.

The season of the genus *Crocus* is from now on to the spring, and one of the earliest to appear is *C. speciosus*, which, together with its variety, *Aitchisonii*, are among the best. These, and *C. biflorus*, *C. icidiflorus*, *C. pulchellus*, *C. sativus*, and *C. zonatus* have all done fairly well; but *Sternbergia lutea*, another interesting hardy bulb, sometimes called the Winter-daffodil, has not flowered so freely as in the past. *Kniphofia pringulina* and *K. corallina* are both small, taking up little room, and deserve a place in the garden. *Tricyrtis hirta* and *T. macropoda* are worthy of notice as autumn plants. Among the last of the lilies are *Lilium philippinense formosanum*, a new and charming introduction from the island of Formosa, hardy, white; and *L. nepalense*. The latter has grown here outside for more than fifteen years, and has hardly ever failed to show its unusual bloom, yellow, heavily blotched with dark purple; but it gives neither seed nor bulbils, and does not appear to be easily propagated. *Nerine Bowdenii*, moreover, lives outside, and is now exhibiting its beautiful, bright rosy-pink flowers. *Primula capitata* is in very good form, and so is the lovely light blue *Gentiana sino-orata*, one of the best plants of its class, and especially welcome in the autumn. So also are *Saxifraga Fortunei*, white, with a handsome foliage, and *S. brunoniana majuscula*, yellow. *Polygonum amplexicaule oxaphyllum*, *P. cuspidatum*, *P. sachalinense* (remarkable for its large bold leafage), and *Fagopyrum cymosum* are useful to cover rough corners or for association with

Bamboos; the first-named, however, spreads vigorously, and is apt to take up more room than can conveniently be given to it.

J. R. OF B.

Reviews.

THE JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY.

THE new volume (Vol. XLVI.) now to hand is notable on account of the important monograph of the Genus *Sedum*, by R. Lloyd Praeger, B.A. It is styled "An Account of the genus *Sedum*, as found in cultivation," and occupies, with index, 314 pages. Gardeners and botanists will welcome this fine work, and will acknowledge with gratitude the debt they owe to the author. None but those who have been under the necessity of trying to cultivate a collection of *Sedums*, or those who were more particularly concerned with their identification only, can know the confusion which existed in the genus; and they only can appreciate the amount of research which Mr. Praeger has had to undertake in order to arrive at the proper position of the hundreds of specimens grown and examined.

Now we have an authoritative description of every species likely to be met with in gardens, couched in plain, easily understood, yet scientifically accurate language. Each description, when fresh material could be got, is accompanied by an accurate figure beautifully drawn in black and white by Miss Eileen Barnes.

In the past many people have fought shy of growing *Sedums* solely on account of the difficulty of obtaining them true to name. There are many beautiful hardy species well suited for borders and rock gardens, and we hope soon to see them in more general cultivation. The Trade can help this by ensuring that their *Sedums* are true to name, and by increasing their collections. The volume contains other good articles on Magnolias, Garden Roses, a list of plants introduced from South America, First Early Potatoes, old and new vars. compared, contributions from the Wisley Laboratory, all combining to render the volume supremely interesting and full of useful information. Price (to non-Fellows), 17s. 6d.

THE FLOWERING PLANTS OF SOUTH AFRICA.

PART 4, completing the first volume of this fine work, is now issued. The magazine purports to illustrate and describe the flowering plants indigenous to South Africa. It is edited by Dr. J. B. Pole Evans, C.M.S., M.A., etc., while the botanical descriptions are drawn up by Dr. E. Percy Phillips, of the National Herbarium. The drawings, which are beautifully executed are by Miss K. A. Lansdell.

The work will be of immense interest to botanists and gardeners, who require accurate figures and descriptions of South African plants. Dr. J. B. Pole Evans who controls and directs the botanical survey of the Union of South Africa will do a great service to botany and horticulture in Britain and Ireland if he can introduce some of the newer South African plants and reintroduce some, such as the Heaths, to our home botanic gardens.

The first volume is dedicated to Mrs. Henry Burton, of Voorspoed, Retreat, Cape of Good Hope.

The Royal Horticultural and Arboricultural Society of Ireland.

THE Autumn Show of this Society was held in Dublin on October 19th and 20th, and rarely has a finer lot of fruit been seen.

Apples were most strongly represented, and were superbly finished, and, considering the dry season, of more than average size. Indeed, many of the examples of such dessert varieties as Charles Ross were really too big for table use. On the other hand, choice dessert varieties such as Cox's Orange, King of Pippins, and others of that class, were almost perfect. Size in cooking varieties is, perhaps, rather an advantage, and certainly it was not lacking in those on view. The enormous size of Bramleys, Peasgoods, Mère de Menage, and others equally well known, was remarkable.

Pears were less in evidence, some examples of Pitmaston Duchess being much too ripe.

A wonderful exhibit came from B. H. Barton, Esq., Straffan House, Kildare, and reflected great credit on Mr. Streeter, the energetic gardener, whose fine exhibit of vegetables was much admired at the Spring Show. The exhibit consisted of fine dishes of Apples and Pears, with a few late Peaches, and was tastefully arranged with a background of flowers and palms. The great variety coming from a private garden was much commented on, and the special award of a gold medal was unanimously approved. On similar lines was the fine exhibit of Apples and fruit trees put up by Messrs. W. Watson & Sons, Killiney Nurseries, Co. Dublin, and which also won the Society's gold medal. A silver medal was awarded to Messrs. Charles Ramsay & Sons for a fine floral display, while other trade exhibits earning the judges' commendation were Mr. Denis Byrne, Sandymount; Mr. S. A. Jones, Kilkenny, for early flowering Chrysanthemums; Sir James W. Mackey, Dublin, for Bulb Bowls, and Bulboline; William Bradshaw, Artane Nurseries, Co. Dublin, for fruit and fruit trees; D. M. Watson, Horticultural Chemist, for Weedkillers; and Miss E. Jones, Rathgar, Co. Dublin, for new seedling dessert Apples.

Much interest was shown in the new seedling Potatoes shown by Messrs. William Cotter & Co., Ltd., a large Vegetable Marrow sent by Mr. C. J. Hyder, Rathgar, and Furze roots for stick and umbrella handles, sent by Mr. J. Howard Parnell, Glenageary, Co. Wicklow.

In the class for a group of foliage and flowering trees and shrubs arranged for effect, the premier award went to the Donard Nursery, Co. Down, who included in their exhibit many rare and beautiful subjects such as *Berberis aquifolium Moseri*, *Cotoneaster Henryi*, *Eleagnus Dicksoni* *Aurea*, *Yucca filamentosa variegata*, *Peruettia* bearing white, lilac, and deep crimson berries in profusion, *Erica colonades*, and many others.

There was a good display of vegetables, fine examples of Leeks, Potatoes, Onions, Cauliflower and Celery being on view; but Beeroot, on the whole seemed coarse. The single dishes of Onions were very fine.

The exhibition, on the whole, was most encouraging, and during the afternoons there was a large attendance. If we might make a suggestion, it is that the Society should arrange to display bills announcing the Show in the windows of the seedsmen's shops in Dublin and suburbs, and also in shops of any kind in the outlying districts.

Allotments.

THE tenure of allotments has been referred to on several occasions in these notes, and, generally speaking, far too many owners of land have an idea that a favour is being conferred on an allotment holder in being allowed to cultivate land which at some future date may be valuable because being then required for building purposes, but which until then is lying waste. It will, therefore, be interesting to see the conclusions arrived at by the committee appointed by the Minister of Agriculture and Fisheries and by the Secretary for Scotland. The committee represents all the interests concerned, and has been appointed to investigate the present position as regards the provision by local authorities of allotments in Great Britain, and to formulate recommendations for such amendments of the existing legislation and administration as may be desirable to secure adequate provision of allotments by



NERINE BOWDENI.

such local authorities and to improve the tenure and security of occupiers of allotments.

Up to the present most allotments have not had much space without crops, but with the lifting of Potatoes and the clearing of other crops there is now a considerable amount of vacant ground. Soils vary so much in character, that in treating them no general rule can be laid down. A large group of allotments here is practically all clay, and our experience in treating this land has been to throw it up in October and November after the manner of lazy beds, leaving good trenches running with the slope of the land to carry away water, which otherwise would lodge on or in the surface soil. If possible, these plots are dressed with lime after trenching, and left until the spring. It is then in a fair condition for working. Light manure, or that of a strawy character, is then forked into it, and the trenches broken down. This is usually possible in March and April, and if the weather is favourable in these

months, by forking and raking, the land can be got into good condition for the sowing of seeds.

On the other hand, a group of plots with very sandy soil provides no difficulties and can be worked at any time. Land of this character, however, suffered badly during the past dry season. Such soils will absorb all the heavy farmyard manure that is applied, and good dressings of manure in the spring are essential to obtain good crops. In fact, to get the best results manure has to be applied before a crop can be planted out. Occasionally, in very sandy soil, a heavy soil may be underlying, and in such cases it may be worth the trouble to bring some of it higher and mix with the surface soils. More often, however, sandy soils are of a good depth, and it is this depth which contributes to its poorness in character.

A class of soil intermediate between the two extreme samples just quoted may be classed as medium. Even these soils vary very much, and generally the best crops are obtained from a good depth of fairly retentive soil and which always lends itself to improvement with good cultivation. Plots of this character can always be dug in the autumn. By digging is meant turning the soil over to the extreme depth of the spade. Any trenching that is done should be done in the autumn to give the land an opportunity to consolidate before the spring. Allotment holders, however, generally have few opportunities for trenching. This work must necessarily be done in the autumn or winter, and with the short days available opportunities for working the land are limited to all except a few.

MANURES.—Garden refuse, when properly decayed, can be dug back into the land. Potato tops and diseased plants should be burnt, and this burnt refuse is also valuable. For the preservation of ordinary refuse, such as waste cabbage leaves, weeds, &c., an excellent idea is to have a square pit in one corner of the plot to dump refuse, and this is a convenience and helps to keep the plot in order.

In towns, allotment holders are more or less dependent on manure which can be obtained locally irrespective of its suitability to the particular class of soil they have to deal with. However, this last year or so the situation has eased off considerably, and manure of value can be obtained from cow-keepers in town; also from stables.

The preservation of this manure once received requires immediate attention, especially where the general practice is to apply it in the spring. To allow the loads to be dumped on the plot and left, results in serious wastage. This loss will be much less if the heap is properly made and beaten down to make it firm. The top is then covered with a layer of soil six inches thick. Then once the heap is broken into in the spring, it should be dug into the land without delay and not allowed to lie about in small heaps. Manure is also especially bad to keep during the summer, as in this case heat causes loss.

It is usually possible to obtain road sweepings for a nominal price, and in the autumn, if the sweepings largely consist of fallen leaves, they are well worth the little trouble to obtain.

SOOT.—In Belfast and other industrial towns a certain amount of flue dust can often be obtained for the asking. This substance is, however, totally different to soot from a kitchen fire, as this latter is a valuable manure and also a good insecticide. For such crops as Turnips and Onions

it is specially useful. When flue dust has been used the allotment holders informed me good results were obtained from it. It also seems to have an important mechanical effect on heavy soil. Ordinary flue dust is distinct from that which is obtained from blast furnaces, which may contain an appreciable amount of potash, making it valuable for Potatoes.

G. H. OLIVER.

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton, Esq., D.L., Straffan House, Straffan, Co. Kildare.

KITCHEN GARDEN.

ASPARAGUS.—The Asparagus growth being now fully ripe, cut down level with the ground. Save any berries required for next season's sowing. Carefully keep them away from damp. Give a slight top-dressing of manure after clearing the beds, then cut down the sides, placing the fine soil on the manure, giving the whole a clean, smart appearance for the winter.

BROAD BEANS.—Where one has the benefit of a good, dry south border, a few rows of Broad Beans may be sown to stand the winter; although personally I prefer to sow in boxes and raise in the glass department during spring. Keep a sharp watch for pests, and sow Beck's Early Longpod.

JERUSALEM ARTICHOKE.—Cut down and burn the stems of this Artichoke. Should the weather turn frosty, dig sufficient tubers to last over the spell. Store them in sand in the vegetable store. These tubers make an excellent dish, as well as being most extensively used in soups, &c.

CAULIFLOWER.—Examine all Broccoli and Cauliflower daily that are on the point of turning in. It is best to be on the safe side, and lift them with a good ball of soil and place in cold frames if they are turning in too fast, and also on the slightest sign of hard weather. Keep all dead and decaying leaves cleaned away from later batches. Caterpillars must be killed during mild weather, otherwise they soon disfigure and spoil the curds. Keep plenty of air on young plants growing in frames.

CARROTS.—Where one has the convenience to raise young Carrots make preparation for sowing a forcing variety in heated pits. Make up a slight hot bed and add about six inches of fine soil, mixing a six-inch pot of soot to each barrow of soil. Keep a sharp look out for slugs, and only turn the heat on during sharp, frosty weather.

SPRING CABBAGE.—The Spring Cabbage is growing rapidly. Keep a sharp watch for slugs and caterpillars. Keep well dusted with soot, and draw a little soil up to the stems to keep the plants from rocking, and also as a slight protection from frost. Keep the ground well stirred between the rows, and if pigeons are troublesome place some old fish netting over the beds about two feet high. Keep any leaves cleared away that may blow from neighbouring trees.

SPINACH.—When picking the Spinach leaves, take off the whole length of stalk, otherwise it may cause considerable damage from damp, &c. Do not allow the plants to be too thick in the rows, and keep perfectly clean from weeds, &c.

CELERY.—Complete the final earthing-up of all

Celery. Make a smart finish, and have covering such as bracken or long litter in readiness for severe frost, removing same immediately the frost has gone. When the ground is very hard lift sufficient heads to meet requirements, and store in the vegetable shed. This crop has made rapid growth during the summer-like weather of October, and will require watching very closely.

ONIONS.—Complete the stringing of all Onions, and occasionally examine for bad bulbs. Keep a little air always circulating through them. Shallots and Potato Onions will require constant watching to keep them in the best condition. Hoe between the lines of the autumn-sown varieties, and after a spell of frost see that they are not lifting from the ground.

LEeks.—Give the final earthing-up of the Main Crop Leeks. See that the soil does not fall into the hearts of the plants. These are very hardy, and will not suffer much from frost.

TOMATOES.—Where glass is available make an early sowing of Sunrise or Winter Beauty Tomato. Sow in 6-inch pots and raise in a temperate house. Do not grow them too close, otherwise the foliage will become drawn and spindly. Keep clean from all insect pests by fumigating. See that the foliage is dry when fumigating.

SALAD.—Keep sufficient supplies of Chicory, Christmas Salad, and Endive blanched. Sow plenty of Mustard and Cress and introduce Watercress, and, where Winter Radishes are esteemed, pull them and take into the kitchen quite young. Keep the soil stirred between young Lettuce in frames and give plenty of air.

SEAKALE.—Have sufficient supplies of Seakale fit for use at all times. Introduce the required number of roots into the forcing-house weekly, and where permanent beds are used keep plenty of fermenting material over the boxes or pots.

PARSNIPS.—During frosty weather, lift and place under cover sufficient Parsnips to meet the demand.

PREPARATION FOR THE FORCING SEASON.—Continue to collect all leaves possible for hot beds. Place them in as large heaps as possible. When all are gathered it will be advisable to turn, and when making hot beds thoroughly make the whole as firm as possible. This will cause the heat to keep up much longer. We put several hundred loads into each bed and find the heat just right for planting out early Marrows, Beet, Carrots, Potatoes, Asparagus, Beans, and many other large lots of forcing vegetables.

TRENCHING.—Push forward the turning up and manuring of all vacant plots. Trench and thoroughly manure a certain portion each season. By this means the whole garden will be brought into a great state of cultivation, and will produce treble the crops of much finer quality. Where the garden is rich in humus, give a good dressing of lime and work in road scrapings if free from motor traffic or tar. During frosty weather get manure, leaf soil, and fresh loam wheeled on to the plots. Get all stakes in readiness for next season. Keep the stocks of all seeds in a perfectly dry place, and away from mice, &c. Protect the Globe Artichokes in severe frost.

FLOWER GARDEN AND PLEASURE GROUNDS.

SUMMER BEDDING PLANTS.—All plants must be safely housed by this time, as there is nightly danger of frost. They only require a temperature of 40 degrees to 45 degrees during the next two months. When the turn of the year comes introduce a little more heat and a growing atmo-

sphere. Keep plenty of air on the frames containing Violas, Pentstemons, &c., that are rooted.

SALVIA PATENS.—It is advisable to lift and store this Salvia, or, better still, collect a quantity of fresh seed for raising in the spring. This beautiful blue ought to be much more extensively grown. This summer it has been magnificent in the blue garden here. Another feature that has been greatly admired was a quantity of Streptosolen Jamesonii, 8 feet high, growing over a cream ground-work of Lupinus (Annual).

WEeping TREES.—Where new flower gardens and pleasure grounds are being formed, a good selection of trees with pendulous habit, should be planted, such as Weeping Copper Beech, Willows, Ash, Limes, Sophora, and Halesia tetraptera. Give them a good isolated position with plenty of room and they will repay you. Sometimes a branch will grow erect, but these should be removed.

LAURELS.—Where one has a big, dry bank to cover quickly and near the public road, as often happens, I would advise planting Laurel Rotundifolia. Keep it short by pruning with a knife or secateurs, and on no account use shears, as these will mutilate the foliage and cause them not only to look hideous, but will eventually cause them to die. During the past few years we have been struggling to grub up thousands of Laurel in these gardens and planting choice shrubs, grassing down and putting various bulbs through the whole plantations.

ROSES—CLIMBING.—Tie in thinly, just sufficient to cover all Poles and Pergolas, the young, strong growths of Climbing Roses. If the cutting away of the old flowering shoots was neglected when they finished flowering this must be done at once. Do not tie in too thickly.

PLANTING SHRUBS.—Finish all planting and alterations as quickly as possible. When planting choice shrubs great care must be taken to have the soil in first-rate condition. Protect in case of severe weather.

LAWNS.—If the grass continues to grow it may be advisable to cut it once more, as this will help to lessen the work of sweeping. Many beds that were grassed down will require re-turfing after this hot summer. This is most important, as the indentations cause much trouble to the mowing machines. Keep the edges of the walks and beds well trimmed to keep a smart appearance. Collect all leaves as soon as they are down, and store for leaf soil for top-dressings.

SWEET VIOLETS.—Keep the soil stirred around the Violets and keep plenty of air on the frames during mild weather. In frosty weather cover the lights with mats or bracken, leaving just a label under the lights for air. In severe weather add good linings of long litter outside the walls of the frames to keep away the frost.

HARDY FRUIT GARDEN.

PLANTING FRUIT TREES.—Push forward the planting of all kinds of fruit trees during open weather. Any tree that is not satisfactory should get attended to. Endeavour to get all trees to root on the surface. They will then derive all the benefits of the warm sun and any feeding and watering that may be given them. Where the soil is poor add a fresh compost as previously advised. Cut away any broken or bruised roots, and lay the fibrous roots in layers, placing the soil in position with the hands, packing up all the crevices with good fibrous loam. Place a stake in position at once where needed. In the case

of moving large trees keep the roots moist, and syringe the trees daily in mild weather, stopping, of course, when the glass begins to fall. If very frosty weather sets in give a mulching of long litter.

PEACHES AND NECTARINES.—Where it is intended to plant fresh Peach and Nectarine trees the work should be taken in hand at once. Thoroughly make the borders with fresh loam and a good sprinkling of lime rubble and wood ash; no manures, as these cause too rank a growth. Allow about 25 feet apart for permanent trees. Do not plant deeper than the trees have been used to, and make thoroughly firm. Established trees should be untied and re-tied to stakes away from the wall until the spring. This will help retard the flowers. Any tree requiring top-dressing must be attended to.

RED AND WHITE CURRANTS.—Prune these Currants and give a dressing of manure. Burn all prunings, and fork over the plantation.

BLACK CURRANTS.—These having been thinned and pruned as soon as the crop was gathered, should now be top-dressed and the plantations forked over.

FIG TREES.—In very cold districts it is advisable to afford Figs growing outside some slight protection. Bracken or Spruce boughs are sufficient as a rule, just placed through the branches.

PRUNING.—Generally speaking, pruning may now be carried out, with the exception of Figs. Peaches and Apricots. It is better to push on now than delay till the spring, when there is so much to be done. Start with Morello Cherries on north walls before the weather is too cold. Train the branches in thinly and evenly. I do not advise shreds, but tie with matting, securing the main branches with tar twine.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN.

ASPARAGUS.—When the stems have turned colour they may be cut down to the ground, and the beds cleaned of all weeds and rubbish, making the border tidy for the winter. A mulch of rotted manure, or, better still, sea-weed, can be put on later.

BROCCOLI.—In the event of a spell of hard winter weather coming on, early varieties should be heeled over, facing the north, covering the stems right up to the bottom leaves. This will throw off the rain, and frost will not do so much damage to the hearts. Later varieties may be treated likewise if found necessary.

Pull up any late Cauliflowers fit for use, hanging them downward in a cool shed.

BROAD BEANS.—For the earliest picking, seed may be sown during the month if a dry, sheltered position can be spared, but equally good results will be gained with a January sowing in boxes placed in a cold frame or cool house and planting out early in spring.

CABBAGE.—Make good any blanks, then draw up some soil to the stems if getting top-heavy; keep the plantation clear of weeds.

CELERY.—Continue earthing-up as long as growth lasts, and be on the look out to give protection during hard weather, removing the covering during the day.

GLOBE ARTICHOKE.—These plants should now be made safe for the winter. Clean away all decayed

leaves, then apply a good mulch of rough stable litter or bracken, packed close round the plants and over the roots. Jerusalem Artichokes may be left in the ground and dug as required for use.

RHUBARB AND SEAKALE.—As one batch is put into the forcing house another may be lifted and placed behind a north wall ready to take the place of the exhausted one.

THE FRUIT GARDEN.

PLANTING.—Push on with the planting of all fruit trees and bushes when the weather is favourable for such work. Never plant a tree if the soil is wet and sticky unless you provide fresh, dry soil prepared for the occasion. When new trees are arriving from the nursery, everything ought to be in readiness for planting at once. The package should be opened on arrival, unless during frost, and the roots examined, trimming off any broken pieces, and, if found dry, place them in a tank of water for an hour or two. Heel them in temporarily until finally placing in their stations. Avoid planting too deep, carefully spreading out the roots in layers. Gooseberries, Red, White and Black Currants and Raspberries may all be planted this month.

PRUNING.—As soon as the leaves drop, this work will claim attention. Morello Cherries are generally the first to be dealt with, as such a lot of tying-in will be required, and it is well to have this done before very cold weather sets in. Tie in the young wood about six inches apart, cutting out any old branches that are bare of young fruiting wood.

APPLES, PEARS, AND PLUMS may be taken in turn as weather conditions allow. Peaches and Nectarines to be left till the buds show signs of activity.

RASPBERRIES AND LOGANBERRIES.—The strongest and well-ripened canes may now be secured to the wires at a space of about nine inches apart. After cleaning away all weeds and rubbish give a dusting of basic slag, mulching with manure when available.

THE PLEASURE GROUNDS.

Most of the Border Chrysanthemums will be past flowering, and to ensure a stock of cuttings at the right time a few roots of each variety should be boxed up and placed in cold frames till the end of January, when they may be started into growth.

Dahlia tubers should also be lifted as soon as the tops are destroyed, storing them in a cool, dry place free from frost.

Where Herbaceous plants have outgrown their stations this is a convenient time to lift them and split up, replanting the outside pieces after digging up the old site, adding some well-rotted manure or leaf mould.

Lily of the Valley beds may now be cleaned of decayed foliage, and a dressing of bone meal will be beneficial. Afterwards cover over the beds with leaf mould to a depth of two inches.

ROSES.—Proceed with the planting this month. Thorough preparation of the ground is necessary to obtain the best results. When using fresh manure bury it deep enough that it will not come in contact with the roots when planting. A mulch may be put on when planting is completed.

VIOLETS.—Those growing in frames require ample ventilation. The lights may be removed entirely on fine days. Dampness is a source of trouble, and will only be kept in check by proper ventilation and the removal of decayed leaves. The runners, too, should be kept pinched back.

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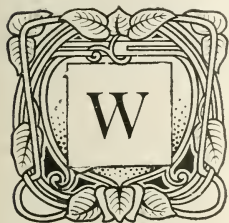
A MONTHLY JOURNAL DEVOTED TO THE
ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

DECEMBER
1921

EDITOR—J. W. BESANT.

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Fragrant Roses.



HERE one asked to name the most striking characteristic of the newer Roses, the answer must be in one word—"colour." Since M. Pernet-Ducher introduced Madame Edouard Herriot (the so-called *Daily Mail* Rose) in 1912, Rose lovers have enjoyed a wonderful period of progress in this respect.

So much so that our French friends appear to have relegated form and everything else to the background in order to worship colour exclusively. In our own countries the long-established English standard of form in flowers has saved us from this extreme; however one may admire, for example, the saw-edged flowers of the American carnations, it must be admitted that the smooth-petalled flower beloved by the British florist has an unequalled charm and beauty. The maintenance of too close an adherence to any particular convention of the kind would, however, be a bar to progress. Twenty years ago no rose hybridiser would have dreamt of retaining the *Padres*, *Red Letter Days*, *K. of Ks.*, *Isobels* or other semi-single or single-flowered roses found amongst his seedlings in the flowering season. Such are disappointing to those who cannot appreciate a rose which is not full, but what would our gardens be without the numerous modern "decorative" hybrid teas which flower almost without cessation from June till autumn, producing a profusion of bloom quite unknown to nineteenth-century gardeners?

It would be interesting to hear what that great rosarian, the late Dean Hole, would say were he to pay a visit to one of our present-day National Rose Shows. But perhaps he is now gardening with roses beyond our ken in form and colour and in fragrance. Ah! there's the sting, for too many of our new roses lack perfume, and in fancy one imagines the Dean sorrowful as he goes round the Show. But our rose raisers are keenly aware of the deficiency, and at no distant date there is little doubt that the ranks of sweet roses will be considerably strengthened. The sense of smell, nevertheless, appears to have been dealt out in

somewhat unequal proportions, and the writer is afraid that raisers of new roses at times find in their own bantlings a fragrance, the detection of which is denied to ordinary mortals. In any case, it is difficult to obtain information of a fully satisfactory character as to scented varieties; even the list of fragrant roses given in the National Rose Society's handbook does not to the present writer appear to be infallible, and, as a guide to himself, and as a possible help to others, notes have been taken in successive recent summers respecting the fragrance of some seven hundred varieties of hybrid roses.

Amongst the sweetest twenty-four hybrid roses should be placed Mrs. Bryce Allen, Hugh Dickson, General MacArthur, George Dickson, *Crimson Emblem*, Edgar M. Burnett, Hadley (one of the best of dark roses), H. E. Richardson, *Madame Abel* Chatenay, *Madame Maurice de Luze*, Mary Countess of Ilchester, Mrs. A. E. Coxhead, Lady Greenall, W. E. Lippiatt, Mrs. Maud Dawson, Zephyrine Drouhin, Duchess of Wellington, Ulrich Brunner, Mrs. Richard Draper, Commandant L. Burtre, Alfred Colomb, Mrs. J. Laing, *Beauty of Waltham*, and the old favourite *La France*. Of these, Duchess of Wellington possesses so strong and sweet a tea fragrance as to resemble closely the scent of freesias; flowers of Lady Greenall will scent an entire room with delightful perfume, as also will *Madame Abel* Chatenay. In degree of sweetness the above set of roses is closely followed in fragrance by Admiral Ward, Chas. J. Graham, Captain F. Bald, *Chateau de Clos Vougeot*, *Cheerful*, *Colleen*, Duchess of Westminster, Edward Mawley, Florence H. Veitch (one of our grandest crimson roses, whether as a climber or large bush), Gustav Grunerwald, Gruss an Teplitz, *Hoosier Beauty*, Jonkeer J. L. Mock, *Laurent Carle*, Lieut. Chauré, *Madame Meha Sebatier*, Molly Bligh (a fine, large new pink rose), Mrs. Forde, Mrs. Geo. Norwood, *Ophelia* (soon to be in every garden), Walter C. Clark; and, of course, quite an extensive list could be named of roses which possess tea perfume in varying degree.

It will be observed that most of our sweetest hybrid roses are of red or pink shades. Probably the sweetest white rose is the *rugosa* *Blanc Double de Conbret*, which reminds one that the large pink flowers of the hybrid *rugosa* *Conrad F. Meyer* are also powerfully sweet.

J. M. W.

Notes from Rostrevor.

AMONG the plants that come into bloom late in the year is *Bunninghausenia albiflora*, from the Himalayan region and Japan—a very pretty species both in foliage and in its long, white and graceful panicles, and well adapted to receive a place in the rock garden. The dwarf carpeting *Polygonum ruginifolium*, pink, is also pleasing, while the trailing *Polygala Chamabucius*, with its variety *purpurea*, and the small upright *Lithospermum rosmarinifolium*, from South Europe, now beginning to develop bright blue flowers, continue all through the winter and into the following spring, weather permitting, to brighten up the dead season of the year. The larger *Cyrtia racemiflora*, a somewhat rare shrub from the Southern United States; *Ligustrum Quihoui*, from China; the half-hardy *Salvia rutilans*, bright scarlet; and the half-hardy and curious little *Mesembryanthemum tigrinum*, yellow, are moreover autumn flowering. So also is *Elsholtzia polystachya*, which showed an abundance of bloom, whereas its companion, *E. Stauntonii*, did not open at all. *Colletia spinosa* and *C. biconensis* have never been more floriferous; in reality, these two plants are the same, and are properly called *C. cruciata*, but they are vastly different in outward appearance; the leaves of the former are awl-shaped, whereas those of the latter are broad, stiff, and quite hard, as if carved out of wood painted green, and well sharpened at the ends; this peculiar species is a native of Uruguay. *Buddleia paniculata*, with soft, woolly foliage, grey above and white beneath, has small compact purple trusses, and *Pentstemon antirrhinoides*, yellow flowers unlike those we are accustomed to associate with that genus. *Coronilla glauca* and *C. valentina* are extremely bright all through autumn, and *C. juinea* has only ceased to bloom a short time ago. *Teucrium fruticans*, with grey green leaves and white branchlets, may be added to the list, for it continues to produce its pale blue flowers late in the season. A *Clematis*, from Tali Range, China, received here with no other name, opened its pleasing, nodding, yellow inflorescence at the end of October. It seems to be a rampant grower, and likely to be useful in many gardens. I think it is probably *C. akebioides*.

But the chief interest at this time lies in the autumn tints, which are remarkably good this season, owing, I fancy, to the drought in the early summer. The whole landscape has, in fact, been very bright with the unusual colouring that all our native trees have assumed. The imported trees and shrubs are, as a rule, no less brilliant, and one of the best is *Disanthus cecidifolia*, from Japan, which always turns a gorgeous red that often remains a long time on the plant. *Enkianthus campanulatus* and *E. subsessilis* are quite as vivid and lasting, *E. cernuus* being, perhaps, the least conspicuous in this respect. Of Sumacs, *Rhus cotinoides*, *R. sylvestris*, *R. typhina*, *R. vernicifera*, and *R. Toricodendron* may be noted; but it is well to add that the last-named is, to some extent, poisonous, and liable to affect some persons in a disagreeable way if they handle the leaves too freely. *Euonymus alatus*, *E. verrucosus*, *Nyssa sylvatica*, *Parrotia jacquemontiana*, *P. persica*, *Photinia variabilis* (*Pourthiva arguta*), *Taxodium distichum*, are known for their autumn colouring; so also *Liquidambar styraciflua*, to which should be added *L. formosana*, with

still better tints, but not perhaps quite so hardy. *Diospyros Mazzeli*, from Japan, with fine large entire foliage, takes a magnificent red shade; a full-grown tree is likely to form a special feature in the woods at the fall of the leaf, while the dark brown of some of the Magnolias, notably of *M. hypoleuca*, contrasts well with the other prevailing colours. Among the Maples are—*Acer griseum*, with peeling bark; *A. Heldreichii*, *A. microanthum*, *A. nikansu*, *A. palmatum*, with its numerous varieties; *A. rubrum*, *A. Schwedleri*, and one raised from seed under the name of *A. Tsing-pi-tum*, which seems to be remarkably good. *Lindera obtusiloba*, *L. triloba*, and *Hamelis mollis*, turn to bright gold; the climbing *Hydrangea petiolaris* to canary yellow; *H. quercifolia*, red; *Mallotus japonicus*, brown orange; *Cornus glabrata*, red and pink. Moreover, *Quercus grosseserrata*, *Q. Michauxii*, and *Q. marilandica*, most of the Birches, among them *Betula Melaleucoides*, some of the Thorns, for instance *Crataegus alnorum*, *C. conjuncta*, *C. splendens*, and many other trees and shrubs are desirable for their autumn colouring.

Cotoneaster horizontalis is the more striking at this time, since the scarlet berries are the same bright shade as the falling leaf; something of the same effect can be seen in *C. adpressa*; but for the most part the various species are planted for the fruit, and among them may be noted *C. Franchetii*, with soft grey foliage; *C. pinnosa*; *C. No. 5567* (Forrest), and the carpeting *C. humifusus*. The berries of *Gaultheria antipoda* are rosy pink, contrasting well with the small, dark leaves; on *G. trichophylla* they are turquoise-blue; and on *G. reicheana* the same colour when exposed to the light. They are very freely produced upon this plant, but are too often hidden under the foliage, and then they remain white. The *Berberis* also are covered with fruit, *B. aggregata*, *B. polyantha*, *B. Prattii recurvata*, *B. Stapfiana*, *B. subcaudulata*, *B. Tischleri*, *B. Wilsoni*, *B. Vilmoriniana* being perhaps among the best. *Hymenanthera crassifolia* and *H. dentata* bear white berries; and on *Cornus capitata* (*Bruthamia fragifera*) they are large, dull pink, and shaped like strawberries. *Vaccinium Arcostaphylos* and *Myrtus Ugni* produce edible fruit which ripen very fairly well in this district.

Crocus ochroleucus, and a late *Kniphofia*, which is, I think, *K. serotina*, have been blooming for some time. *Iris unguicularis* (*I. stylosa*) has come back into life much earlier than usual, and is now sending up many of its delightful flowers. But the best at this time here is *Schizostylis coccinea*, the Kaffir Lily, which spreads well and never fails to brighten the late autumn with many spikes of red blooms; if weather permits, the display lasts for some time. *Amicus zygomeris* is an interesting herbaceous plant from Mexico, growing usually from 8 to 10 feet high, and having large, yellow, pea-like flowers; it is set off by a fine tall scarlet Thistle, whose exact name I have not been able yet to ascertain. The blue *Parochetus communis* has been blooming rather later than usual. Of native plants, *Clematis vitalba* is conspicuous, if it can be got to clothe a tall tree and cover the stem with its own rampant growth, and so to show to the best advantage the greyish white hairy seeds that have earned for it the name of "Old Man's Beard."

J. R. OF B.

Notes from a Small Garden.

By R. LLOYD PRAEGER, B.A.

Saponarias.

For the rock gardener who has an eye for quiet, pleasing colouring, the dwarf Soapworts deserve more attention than they usually receive. They are little clumpy plants, a couple of inches to a foot high, soft yellow or red in flower, and by hybridising, Sündermann has succeeded in mixing these colours in a pleasing manner. Among the yellows, *bellidifolia* and *lutea* are to be commended, while the red or reddish species include *cæspitosa*, *cypria*, *pulvinaris* and *libanotica*, which are all worth growing. By the crossing some of these, Boissieri, Sündermann, Wienmanniana, and Willkommiana have been produced, and all of them are most pleasing. They are plants not very easy to obtain, but I notice that in spite of war difficulties, Sündermann still holds a fine stock of them. All that I have tried, I have found to be long-lived when given good drainage and plenty of sun.

Plants I have Killed.

It is fortunate that time softens the sense of loss, for, unless one is a very timid gardener, and sticks to *Arabis* and *Montbretia* and *Doronicum*, failures are inevitable, and, if one has any enterprise at all, numerous. I can think of whole cemeteries full of beloved corpses, and if I allowed the thing to get on my mind, might awake at night, exclaiming, like Richard III., "Me-thought the souls of all that I had murdered came to my tent." Yet the only way to get to know a plant is to grow it, or to try to grow it. In my enthusiastic days I wanted to have and to know every rock plant. I bought from catalogues at sight. And so, among crowds of rubbishy things appearing under alluring names, *Eritrichium* and alpine *Androsaces*, *Lewisia*, *Spigelia*, and *Regelia* Irises passed in sad procession through my hands, and, like the cloud-capt towers, left not a rack behind. But in many cases success was achieved through failure, and, for the benefit of other adventurers, I give a few hints, though there is nothing new in them. First, I am a firm believer in the unsightly zinc ring. Even without its picturesque refinement of an encircling copper wire, to give the slugs a foretaste of the sensations of electrocution, it is quite effective in keeping pests away; and pests, particularly slugs, are wonderfully enterprising about sampling a new or weak plant. Furthermore, it guards against scratching birds and trampling dogs and cats. It also tends to keep the plant cool in hot weather and warm in cold weather, and if rain or sun or frost is excessive a scrap of glass laid across it often saves a plant's life. So every small plant that goes into the open gets its zinc ring until it has found its feet, and the death-rate has been very much diminished thereby. I have of late years tried, with much success, dibbling in single cuttings of such things as *Pinks* and *Erodiums* and *Saxifrages* wherever they are wanted, in early spring or when the August rains have come (as they always do, bless 'em!), each with a zinc ring, and find I get a good plant quicker, and with less trouble, than by using boxes and subsequently planting out.

Second point: If a plant will not grow by being

fed, try starving it. Many choice rock garden things, such as the dwarf shrubs and sub-shrubs of the Mediterranean region, and the woolly things from semi-deserts, live naturally in a very poor soil, and this is what they need. As cases in point, I have *Cytisus Ardoini*—usually found troublesome, I understand—forming a mat a yard square; *Vella pseudo-cytisus*, four feet high and eighteen feet round; *Vella spinosa*, a foot high and six feet round, with a butt over a foot in circumference; and on a gravel path—nowhere else—*Hypericum fragile* forms mounds a foot high and nine feet round, and sows itself in abundance. These are, I am informed, about the best plants of these species to be seen in Ireland, and they all grow in poor soil, and have never been fed.

Again, we lose more things in this country from winter damp than from any extreme of heat or cold. A little care to guard against this is amply repaid, and, as is well known, the plants to be protected are especially those with hairy or woolly leaves—*Androsaces*, *Marrubiums*, *Asperula* *Athoa*, and so on. No elaborate apparatus is necessary. I use broken pieces of glass. Take a triangular or squarish piece and in autumn push it firmly into the ground as close to the plant as is safe, at an angle of about 45 degrees, so that it leans over the plant. This keeps off the weight of winter rain while leaving free circulation of air, and the difference in appearance of a plant so treated and one left wholly exposed to the weather is often most striking.

Lastly—for I must bring this sermon to a close—do not be daunted by a first failure. Try a plant at least three times, in a different place each time. Some of the things which you have difficulty in establishing you will end by weeding out in handfuls. I quite agree with Mr. Scaife that if a species *won't* grow with you, have done with it; there are plenty of good things that *will* grow. But, if it is a good thing, do not give it up without a fair trial. Glorious failure is better than mean success. 'Tis better to have loved and lost than never to have loved at all.

Some Flowering Plants of a Woodland Garden.

FLOWERS for a woodland or wild garden need some care in selecting for, apart from the fact that they have to put up with a certain amount of shade and drip, it is by no means all plants that look well in association with natural surroundings. To give an example, what are known as "coloured" Primroses and Polyantheses always, to my eye, look out of place in grass or creeping ivy, though they may do quite well. Then, among *Narcissus*, though I know not why, few are so pleasing as the little native *Daffodil*, the Trumpet set and some of the stars of lesser magnitude, but the Bunch-Flowered, the Doubles, and a good many more of the more decorative sorts are very liable to offend.

Then a suitable woodland plant must, to a great extent, be able to take care of itself. It has to face some competition with native herbage, though a little help may always be given where desirable. But regular manuring, staking, watering, spraying, and the general round of attention usually demanded by border subjects, must be reduced to a minimum, or your wild garden loses half its significance and charm.

Heathers being such first-rate plants for any lime-

free woodland soil, many species and varieties flourish in the thin shade of tall Oaks in this Welsh garden, more especially the winter-flowering kinds, and any of the late ones which belong to, or are akin to, the *Erica cinerea* group. The true *E. australis* also does well under these conditions, as does *Bryonthus empetriformis* and *Daboecia (Menziesia) polifolia*, of which last the white variety is the most telling in effect.

Associated with the above, though in a group by itself, *Polygala chamaemurum purpurea* is an ideal little plant—one that will produce its pretty pea-shaped flowers nearly all the year round, and soon make a large patch, rose-purple and myrtle-green. A shady corner between the junction of

families, and spreads abundantly by rooting its lower leaves to the soil. Dog-tooth Violets are, of course, also much in evidence in spring. Most of the better-known kinds are perfectly happy in all kinds of places where the natural herbage is not too rank, one of the most charming of them, but not the most robust, being *Erythronium californicum (giganteum)*, in chrome-yellow and orange.

Unfortunately, the presence of Alders near the water renders the adjacent soil almost useless for the growing of many subjects which would otherwise prosper in such a situation, owing to the dense mass of surface roots produced by those trees. Few Primulas can put up with such com-



A WOODLAND GARDEN.

two paths is now entirely occupied by the Polygala and the yellow-flowered type, whilst close at hand the Twin Flower (*Linnaea borealis*) is creeping over a mossy stump as it delights to do. Another plant, and a countryman of the Twin Flower, which also enjoys an old stump close by, is *Cornus canadensis*, one of the very best of woodlanders. And here also that delightful Fumitory, *Corydalis cava* var. *albiflora*, whose white sprays, that look like Roman Hyacinths, and are nearly as fragrant, are among the first flowers of the early year.

One of the most prosperous of the woodland Lilies with us is *L. pyrenaicum*, a bold and handsome old species which deserves more praise than it usually gets. *L. tigrinum* var. *Fortunei* is also very pleasing, propagating itself freely in a bed near the water, originally made for Eremuri, which latter eventually surrendered to the persistent attack of slugs. This bed is very gay in the earlier season with the lavender of *Cardamine pratensis*, fl. pl., which, having forfeited its usual method of increase by seed, produces prodigious

pany, and many of the herbaceous Spiræas do not like it. The same must be said of the choicer *Trilliases*, though the native species, by no means to be despised, can hold its own. The commoner woodland Ferns, of course, abound here, and among them *Borago laciniata* has become quite naturalised, and is nowhere seen to better effect. Also, between the said Alders, *Onoclea sensibilis* shares a square yard or so with *Vancouveria hexandra*, whilst a little beyond is a big clump of the finest of all hardy Maidenhairs, *Adiantum pedatum* var. *Klondike*, and that miniature of our own Royal Fern *Osmunda*, *O. gracilis* of Canada. Several forms of the Willow Gentian (*G. asclepiadea*) are doing nicely in these damper regions, the pure white being particularly fine in dense shade against a dark green background, and the tallest blue bearing arching wands 4 feet in length. Nor can we omit to mention *Orchis foliosa*, which seems perfectly happy where it only gets a glimpse of direct sunlight.

One of the most delightful of the Aquilegias—typical woodland plants—is the common old white

short-spurred form, which has appeared every season for years, and not less beautiful in its own way, is the elegant scarlet and yellow, *A. formosa*, this latter making an admirable companion for Ferns. A white form of the Hairy Willow Herb (*Epilobium hirsutum*) is attractive and uncommon, without being so aggressive as its better-known relation, and a bold clump of the true *Lavatera olbia* is always effective in an open space. *Lysimachia clethroides* is a good shade plant for a wild garden, and the more rampant *L. punctata*, with its spires of yellow bells, is a handsome species, and safe enough here. Growing among Heaths, the more lowly Coneasters and other subjects, *Arenaria montana grandiflora* is quite at home, reproducing itself freely,

tabile to populate the woodland rather than overrun the rock garden, for it is too fine a subject to be cast out—even if that were possible!

Campanula lactiflora is one of the best of its race for wild woodland planting, the pale lavender-blue of its flowers being particularly effective in light shade, and among the *Verbas-cums* which do best with us are *nigrum*, in yellow and white, "Miss Wilmot," *cupreus*, and *densiflorum*. But I must bring these random notes to an end, though no mention has been made of the Cyclamens, Colchicums and Anemones, of Wood Lilies and Gaultherias, of Iris and Rodgersia, and a hundred more which at one season or another lend their charm to this half-tamed corner of the wild.

A. T. JOHNSON, N. Wales.



GROWING STRAWBERRIES IN BARRELS AT GREENFIELDS, TIPPERARY.

and of the several *Omphalodes*, *O. cappadocica* is a peerless gem, and one easily satisfied.

Meconopsis cambrica (Welsh Poppy), a pest in the rock garden, is elegant and pretty, and an all-summer bloomer, along the path margins and among prostrate Ivy, but the buff form is still more pleasing and less prolific. *Tiarella cordifolia* is as indispensable as it is easy, but *T. unifoliata* is bigger and better in every way, its only drawback being that it is not a coloniser. A large-flowered form of *Geranium phaeum*, with leaves in four colours—viz., green, sepia, cream, and red—seeds freely, as do *G. striatum* and *Endressi*, the half-caste progeny of the two latter in various tones of pink growing freely even in grass. The splendid *G. aeneumfolium* is also becoming naturalised in clear spaces. That beautiful little Wood Sorrel, *Oxalis acetosella rosea*, is, I am happy to say, beginning to establish itself, and the Cowslip-like *O. lutea* grows like a weed almost anywhere. With some difficulty we are trying to persuade the purple-flowered *O. spec-*

Strawberries Grown in Barrels.

EVERY garden, whether it be large or small, should possess its strawberry bed, and when the fruit is in season the portion of the garden where such is situated is for a time the most popular, but as soon as the harvest is over the daily visits and the careful attentions cease, and the strawberry bed becomes, as is too often the case, one of the waste pieces of ground in the garden. It must be admitted that there is wonderful pleasure to be obtained in growing, in no matter how small a quantity, the succulent strawberry.

We would grow strawberries, but we would also, when the fruit is gone, grow in their place something else, and wrest from one of the best pieces of ground in a small garden flowers or vegetables that shall continue our interest and occupation.

It can be done, and both the large and small grower can derive much pleasure from the following method of culture that I now shall describe.

The growing of strawberries in barrels seems to

have originated in America, and the idea, which was decidedly novel, soon found its way to this country, with the result that, although not frequently practised, yet it is often tried by men of small gardens, and others by way of experiment.

Having secured some sugar or paraffin barrels, you will proceed to make some holes in the bottoms for drainage, and larger ones round the sides of the barrels, in which, when all is ready, will be placed the strawberry plants.

The holes should be about three inches in diameter, and should be made in circles round the barrels, so that the holes in each alternate row are in a straight line, this gives each plant more room in which to grow. About six holes to a circle, and twenty-four in all, will be found to be as many as can be well introduced.

First of all, then, get an iron down pipe, or round wooden stake, and place it in the centre of the barrel, the grower can then fill in the barrel with rich light loam, with some manure mixed, until he comes to the first line of holes, then place a plant out in each hole, and add more soil, and so on. As the work proceeds gently move the pipe or stake, as the case may be, in the centre, until the barrel is filled, when it can be moved on to the next barrel, and its place filled in with small stones, so that when water is poured down into it there may be an equal distribution to all plants.

It is a pretty sight to see a well-grown crop of fruit on barrels, also being so clean and free from germs of any kind.

Greenfields, Tipperary.

P. SCHOFIELD.

Allotments.

THE month of January will mark a new financial year for allotment holders, and it can reasonably be urged at this period that the time is overdue for a reduction in the rent of garden allotments. A good deal of the land utilised for plots would in all probability be lying idle but for the plots, or, at the most, might realise a nominal figure for grazing. It can be said that fencing and other charges prohibit a reduction in the rent, but if the land is not to run absolutely wild, fencing of some description must be done. The majority of plots in towns are of what is now known as the standard size—viz., 300 square yards, usually let at ten shillings per plot. Nominally, this is at the rate of £8 per statute acre, but actually less, some allowance being essential for cart-roads and footpaths. In any case, however, the above charge is exorbitant, and on top of this, where a supply of water is laid on, the water-rate, in addition, is paid by the allotment holders. The time is, therefore, opportune for the matter to have consideration.

During the war the rise of the allotment movement and the cultivation of small gardens generally were the means of saving the situation for more than one horticultural seedsman. It would not be in the least surprising if that movement has not introduced what will eventually lead to a total change in the functions of the seedsmen in the respect that in catering chiefly for the large estates in the past, the business will rely chiefly upon the smaller gardens generally. It is not contemplated here, for one moment, that the seedsmen look for such a change with enthusiasm, but the thousands of small gardens and allotments about the country have a considerable beneficial effect on the trade even now.

GENERAL REMARKS.—If possible, avoid working

or even walking on heavy land when the soil is wet from recent rain. Such soils are also particularly binding when melting after frost. Flooding the soil between rows of recently-planted Cabbages is beneficial in that it helps to sweeten the soil, and which, being thrown against the stems, serves as a protection during frost. Potatoes which have been kept for seed can now be conveniently placed in boxes. It is essential that the boxes should be in a position to receive all the light possible, and the temperature above freezing point is all that is necessary. Should the boxes be placed anywhere in semi-darkness combined with a warm temperature, the sprouting of the tubers will be much too rapid, and will eventually have to be rubbed off, if not retarded in time. The economical practice of preserving Potatoes for seed can easily be overdone, when it becomes false economy. An excellent method, but one involving a little extra trouble, is to purchase a sufficient quantity of new seed each year to plant a few rows, and to save the whole of the crop resulting for planting the following season. The ordinary method of just selecting the small tubers from the general crop can, if persisted in for a few seasons, cause a serious decrease in the weight of the crop.

The opinion is general that the flavour of Parsnips is improved after being frozen, but the roots are difficult to dig out when in this condition. A small number can be dug up and covered with soil for convenience when the ground is not frozen. A further covering with loose, dry material is also helpful. Parsnips rapidly dry and shrivel if kept out of the ground very long. The same precautions in case of frost are useful for Jerusalem Artichokes.

The supplies of late Cauliflowers are decreasing. A good deal can be done in the way of preserving any remaining ones by tying the leaves over the curds and pushing the plants with the heel of the boot over to the north, and then heaping soil against the stems.

Preparations can now be made for forcing Rhubarb. If the roots are lifted and placed in the allotment shed they will force readily if kept in the dark. Ordinary soil can be used from the plot to cover the roots, and watering should not be neglected when it is required.

MANURES.—Poultry manure should be stored in barrels and kept dry. In this condition it is equal in value to four times the quantity of farmyard manure. Owing, however, to its hot and fermentative nature it should be used with caution. About four to six cwt. to a plot is a good dressing.

Pigeon manure is even stronger than poultry manure. The manurial value is probably about eight times the value of farmyard manure. The scrapings of the pigeon loft should, therefore, be carefully preserved.

In the Channel Islands and also along our coasts, sea-weed is largely used; and, like farmyard manure, it is a complete manure. For sandy soils it is extremely valuable for improving their condition, also in retaining moisture, and thus helping the plants in time of drought. Sea-weed containing, as it does, potash, is extremely valuable for Potatoes. If possible, it should be applied before planting time; occasionally the tubers are "soapy" if the sea-weed is not decayed. It is also a valuable manure for Cabbages, and, generally speaking, it is about equal in value to ordinary farmyard manure.

G. H. OLIVER.

The Month's Work.

Midland and Northern Counties.

By MR. F. STREETER, Gardener to B. H. Barton,
Esq., D.L., Straffan House, Straffan,
Co. Kildare.

THE KITCHEN GARDEN.

FORCING ASPARAGUS.—Where there is a demand for forced Asparagus it will be advisable to make up some good hotbeds of three parts fresh leaves and 1 part long litter; place about 3 to 4 feet of the above material and thoroughly firm, put a few inches of good sandy soil over this, then lift and put the crowns in close together; do not allow the crowns to become dry after lifting from the permanent beds; keep the frames close and sprayed on fine days, covering at night. It is a good practice to take one bed each season for this purpose, making a fresh bed with strong seedlings.

RHUBARB AND SEAKALE.—Where one has the convenience of forcing houses, it is now a simple matter to obtain plentiful supplies of both Rhubarb and Seakale. Owing to the Apples keeping badly this year, plenty of Rhubarb will be required, also Seakale, to make a welcome change in the vegetable list. Keep a moist atmosphere, and not above 60°; great care must be taken to keep the house perfectly dark.

MUSHROOMS.—Guard against too much heat in the Mushroom house, and keep the walls and floors damped with warm water daily. Keep collecting fresh manure for making up fresh beds; be on the alert for woodlice, etc. When picking twist the Mushroom clear, do not cut as is too often done, thus causing damping to set in, and so destroy the crop.

EARLY POTATOES.—Set up the Early Potato sets to green and sprout, ready for forcing. Duke of York seems a great favourite here in Ireland. Personally, I prefer Sharpe's Express and Midlothian Early. Last season New Success was in advance of anything we had, both for cropping and earliness; the first planting should be done this month, using either pots or boxes; an excellent plan is to start them in the early fruit houses, moving into later houses as the season advances.

CARROTS.—The first sowings of Horn Carrots should be made in hotbeds in heated brick pits, using some 4 inches of fine soil, dust over occasionally with soot or lime to ward off attacks of slugs.

TOMATOES.—Make the first sowing of Tomatoes for next spring supplies. Sunrise, Winter Beauty, where it does well, Peachbloss and Sunbeam are the best varieties for this sowing; raise in a temperature of about 60°, prick off when large enough and grow steadily on a shelf near the roof glass. When pricking out and potting off use soil the same temperature as the house and pot them in the same house as growing.

BROCCOLI.—All Broccoli turning in during the winter months should be heeled over facing north; carefully watch and place any that are "turning in" into cold frames during sharp spells of frosty weather.

SPRING CABBAGE.—Keep the spring Cabbage bed clean of all leaves that may blow from other quarters of the garden. If the ground gets beaten hard with rain, etc., it may prove helpful to gently fork between the rows.

TURNIPS.—Where young sweet Turnip tops are

appreciated place a few bulbs in the forcing house weekly, they soon start into growth and may prove helpful.

SPROUTS.—Sprouts in full bearing will require constant cleaning of all dead leaves; do not take the heads of the plants off until the picking is finished.

SPINACH.—Spinach is in daily demand now. Continue to pick the outside leaves first, and keep the plantations free from dead leaves, etc.

PARSNIPS.—During frosty spells lift sufficient roots to carry over the hard time.

CELERY.—Have sufficient covering at hand to protect the main rows of Celery during sharp spells, removing immediately the frosts break. When digging up leave the ridges until the spring, this will allow the frost to do its work.

SALADS.—Keep sufficient Endive and Chicory blanched ready for use. Make weekly sowings of Mustard and Cress, and use Water Cress from a clear running stream.

HARDY FRUITS.

PRUNING.—Push forward the pruning of all fruit trees, with the exception of Figs, Peaches, Nectarines and Apricots. This operation requires of the operator a good knowledge of his subject. He must know the varieties and the different types of training, the main object being to obtain high-class fruit, and cover whatever space the tree is allotted. Where summer pruning was practised very little remains to be done, except the leaders, which require shortening to five or six buds and to an outward eye. When pruning Wall Fruit keep the fruit buds forming as close as possible to the wall; endeavour to keep the tree well balanced, that is, an even number of shoots each side of the stem; in young trees sometimes two or three growths will grow clean away, this must be stopped, and the strength thrown into the weaker growth to furnish the tree. Keep the centres of the trees open as much as possible to allow the sun and air to reach each branch and fruit; do not overcrowd, allow plenty of space from branch to branch. When the pruning of each section is finished it is advisable to clean up and burn all rubbish. Take a little of the top soil that has become impoverished, giving a topdressing of good loam and lime rubble, with a sprinkling of finely crushed bone (not bone meal, as this too often goes mildewed and stale, thus driving away and killing the roots, instead of feeding them). When using artificials, if the gardener does not possess a knowledge of chemistry he would be well advised to consult his local chemist, or purchase "Cousin's Chemistry of the Garden," revised, price 2s. My reason for writing this is because if any plant or tree is fed at the wrong time the valuable stimulant is lost, which, if given at the proper time, would make all the difference between poor and excellent fruit.

RASPBERRIES.—Push forward the tying and cleaning of Raspberry canes. When tying to wires the ground clean and free from dead leaves.

RASPBERRIES.—Push forward the tying and cleaning off all Raspberry canes. When tying to wires face them to the north or east, whichever direction they are planted; do not cut off the top, as is too often practised, remembering that practically all fruit trees produce the best fruit at the tip of the growth, bend them over to form an arch. This is a very old practice and but seldom seen in present day fruit gardens, but I strongly recommend it to all those who require the finest fruit and a longer succession.

Southern and Western Counties.

By MR. J. MATTHEWS, Gardener to Sir Richard Musgrave, Bart., Tourin, Cappoquin, County Waterford.

THE KITCHEN GARDEN

DECEMBER, the end of another year, but to the gardener the beginning of his calendar. A great deal of his success depends on the preparations carried out during this month. The principal work being the manuring, trenching and digging of all vacant ground, get as much turned as possible before the end of the year to receive the full benefit of the winter frosts; ground should not be dug when in a wet or frozen condition. During bad spells of weather many other little jobs can be done which will help to relieve the pressure of work during the busy season.

FORCING POTATOES.—Tubers of early varieties should be selected and placed in trays to sprout, stand them in a light warm house, and when an inch or two long may be planted in pots or boxes which will be found more convenient to grow the earliest batch, being easy to shift about; meantime pots and boxes can be half filled with light soil and allowed to warm ready to plant the tubers. When well started keep them growing as near the glass as possible to avoid weak spindly tops, which seldom give good results. Tubers in the potato store should be turned over occasionally, rubbing off all the sprouts and picking out bad ones.

ONIONS AND SHALLOTS should also be examined from time to time, removing any decaying bulbs. Look over late planted Cabbage after heavy frosts and tighten the soil round the stems, and, as a protection against damage, draw some soil up to them.

THE FRUIT GARDEN.

Weather conditions will, to a large extent, regulate the work in the fruit quarters, therefore places must be made accordingly. Push forward the planting of trees and bushes as quickly as possible when the ground is in a suitable condition. The pruning and training of wall trees is uncomfortable work, but may be carried on during the warmest part of the day. When pruning is finished spraying should be done on calm, dry days, going over the trees, thoroughly wetting every branch right to the tips.

The present month is a suitable time to propagate a stock of bush fruits; well ripened shoots of the current year's growth should be selected, remove the soft points, leaving the cuttings from 15 to 18 inches long and cut all buds off, with the exception of four or five at the top, this will give a clean leg, and keep the lower branches clear of the ground. Allow a space of 15 inches between the lines and insert the cuttings a foot apart, burying them half their length, treading the soil tight about them. The buds of Black Currants should not be removed, as with these the aim is to furnish as many shoots as possible from the base to form a stool. Where young stock is raised annually the young bushes should be transplanted each season until large enough to be placed in their final quarters, this has the effect of producing a good

ball of fibrous roots. They should all be pruned hard back the first season to form a good foundation of a well-balanced bush.

STRAWBERRIES.—When the soil is sufficiently dry for working, lightly fork along the drills to destroy seedling weeds; take advantage of frosty mornings to wheel manure on for mulching; the winter rains will work down the feeding properties of the manure, which will be available for the plants in spring.

The fruit in the store will require regular attention to remove any decaying specimens. Apples are not keeping so well this year, even late varieties are showing an unusual percentage of decaying specimens. Keep the atmosphere moderately cool and moist.

THE PLEASURE GROUNDS.

BEDDING PLANTS.—Extra care will be required this month to prevent the damping of young stock; ventilate freely on favourable occasions and keep all decayed leaves picked off; if water is necessary give it early in the day to ensure the atmosphere drying up before nightfall.

Continue the planting of shrubs when conditions are favourable, and when finished fork over the beds and border, working in a portion of decayed leaves. Where spring bedding is not carried out the flower beds and border may be deeply dug or trenched, adding well-rotted manure if required, leave the surface as rough as possible through the winter. Give the grounds a general clean-up now that all the leaves are down. Collect and store as many Beech and Oak leaves as will be needed for hotbeds, and pile the remainder in a convenient corner to decay for leafmould, which forms a capital topdressing for Ericas, Azaleas and Rhododendrons.

ROSE PLANTING should be completed without delay; climbing Roses may now have the old wood cut out, tying in the strong vigorous shoots.

Choice plants in the rock garden will require looking after, as many of them are likely to go with damp; sand or lime rubble placed round them will assist to dry up excessive moisture, or pieces of glass put round them will run off heavy rains.

Sweep and roll lawns during the winter when they are fairly dry, maintaining a tidy appearance. All alterations still in hand in the Pleasure Grounds should be pushed forward and completed before the end of the year, with a view to having a clear start in 1922.

Notice.

Owing to want of space, due to the inclusion of the Index for 1921, several important articles have had to be held over, and others somewhat curtailed.

In our January number, which promises to be of much interest, we hope to continue Mr. Lloyd Praeger's *Notes from a Small Garden*, while we shall also have *Notes on the Wild Flowers of Southern California*, by a well-known writer; *Autumn Tints in 1921*; *The Imperial Fruit Show*, by an Irish Visitor; *The Autumn of 1921*, by Mr. Murray Hornibrook, and various other interesting items.

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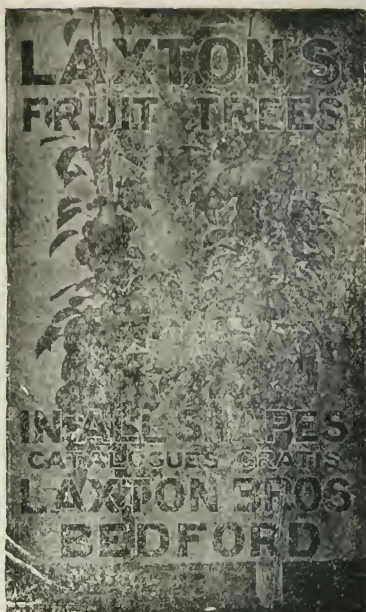
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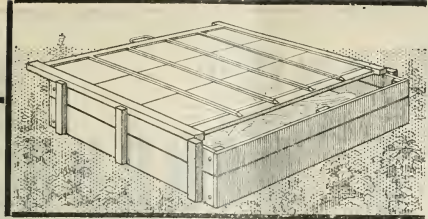
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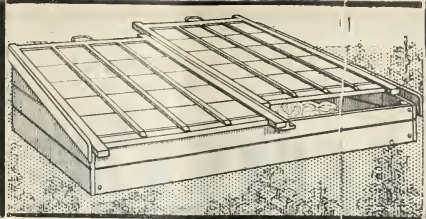
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12 GOOD ROSES FOR TOWN GARDENS

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C. Testout, pink.	La Tosca, pink.
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G. Dickson, crimson.	Mme. Ravary, orange.
G. Gruenerwald, yellow and pink.	Mrs. Laing, pink.
J. B. Clark, scarlet.	U. Brunner, cherry red.

Write to-day "Lest you Forget"

Bees Ltd
Liverpool.

Royal Horticultural and Arboricultural Society of Ireland.

At the Council meeting held at the offices 5 Molesworth Street, Dublin, on the 12th December, arrangements were made for holding the 91st annual general meeting at the offices at 3.30 p.m., Friday, December 17th. On consideration of a letter from Mrs H. B. Moloney, Brayfort, Bray, suggesting a Rose and Sweet Pea Show next July, it was decided, subject to confirmation at the annual general meeting, to hold it, also a fruit show in October, in addition to a spring show in April, already arranged for. Preliminary arrangements were made for holding a second series of lectures on popular gardening subjects, commencing in January. Mrs. Blood, Priurose Hill, Kingstown, Mrs C. H. Hyder, Audley, Rathgar, and Mr Andrew Pearson, Fort Lodge, Phoenix Park, were elected members of the Society.

Splendid Work of a Canadian Commission.

The beauty of the surroundings of Niagara Falls on the Canadian side is always a source of deep gratification to hundreds of thousands of visitors every year. The public duty of preserving the beauties of this great natural heritage was 15 years ago entrusted by the Government of Ontario to the Queen Victoria Niagara Falls Park Commission. This Commission, whose members are unpaid, has done splendid work without costing the public a penny, its revenue being derived from the water powers and concessions.

Not only are the public parks at the Falls and Kingston Heights of great beauty, but in addition, 18 miles of broad and perfect highway, nobly lined with trees, have been constructed down the gorge along the Niagara river, which is a scene of natural loveliness at all seasons. There remains to be constructed 15 more miles running northward from this point past the Glen, descending Queenston Heights, and terminating at Butler's burying ground at Niagara-on-the-Lake, an historical and peaceful spot, dating back to the earliest days of English settlement in Upper Canada. Its reclamation, as well as the reverent preservation of

other frontier shrines, like Fort Erie, where so many brave men were slain in 1814, show the fine spirit in which the Commission is carrying out its labours.

Catalogues.

BAKER'S, Codsall, Wolverhampton, have issued a most interesting catalogue of seeds for 1921. The illustrations, which are numerous, are mostly coloured. A first-rate selection of both vegetables and flowers is offered, and Messrs. Baker's many clients will have no difficulty in securing just what is required for any department of the garden.

MESSRS W. DRUMMOND & SONS, DAWSON STREET, DUBLIN, are offering many fine strains of vegetable and flower seeds in their new 1921 catalogue of seeds. The firm has a well-deserved reputation for high-class garden and farm seeds, and their numerous clients throughout the whole of Ireland

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Trials at Wisley.

The following awards have been made by the Council of the Royal Horticultural Society to Michaelmas Dwarfs after trial at Wisley.

First Class Certificate.—Nos. 150, 151. *Amellus* King George (A.M., 1910), sent by Mr. Ruys and Mr. W. Wells, jun.

Award of Merit.—No. 141. *Amellus* Wichenholz, sent by Mr. Ruys. No. 148. *Amellus* Rudolph, sent by Mr. Ruys. No. 152. *Amellus* Passiflora, sent by Mr. Ruys. No. 153. *Amellus* Mrs. Perry (A.M., 1910), sent by Mr. Ruys. Nos. 144, 145. *Amellus* Beauty of Rousdon (A.M., 1913), sent by Mr. Ruys and Messrs. Baker. No. 149. *Amellus* rubellus, sent by Mr. Ruys. No. 107. *difflens* Bianca (A.M., 1909), sent by Messrs. Baker. No. 110. *ericoides* Katherine, sent by Mr. H. J. Jones. No. 118. *ericoides* Silver Queen, sent by Mr. H. J. Jones. Nos. 1, 2, 4. *Novae Anglie* Lil. Bardell (A.M., 1907), sent by Messrs. Jones, Ruys, and Jones. No. 3. *Novae Anglie* Ryecroft Pink, sent by Mr. Ruys. Nos. 5, 6, 8. *Novae Anglie* Mrs. S. T. Wright (A.M., 1907), sent by Messrs. Jones, Ruys, and Jones. No. 9. *Novae Anglie* Mrs. Wheeler Bennett, sent by Mr. Jones. No. 18. *Novi Belgii* Maid of Colwall, sent by Mr. Ballard. No. 37. *Novi Belgii* Antwerp, sent by Mr. W. Wells, jun. No. 40. *Novi Belgii* Mons (A.M., 1910), sent by Mr. Wells, jun. Nos. 62, 75. *Novi Belgii* Anita Ballard, sent by Mr. Ballard and Messrs. Baker. No. 79. *Novi Belgii* Heather Glow, sent by Mr. Ballard. No. 82. *Novi Belgii* Dick Ballard, sent by Mr. Ballard. No. 83. *Novi Belgii* wonder of Colwall, sent by Mr. Ballard. No. 92. *Novi Belgii* Beauty of Colwall (F.C.C., 1907), sent by Mr. Ballard. No. 166. *Novi Belgii* Ribston, sent by Mr. W. Simpson, Wetherby, Yorks. No. 19. *Novi Belgii* Queen, sent by Mr. Jones. No. 46. *Bruges* (Novi Belgii), sent by Mr. Jones. Nos. 70, 71. *Blue Gem* (Novi Belgii), sent by Mr. Ballard and Messrs. Baker. No. 87. *Novi Belgii* Brightest and Best (A.M., 1918), sent by Mr. W. Wells. No. 61. *Novi Belgii* Climax (A.M., 1908), sent by Mr. Ruys. No. 161. *Mrs. Frank Penn* (Pleaid type, A.M., 1913), sent by Mr. Jones. No. 125. *vimineus* Golden rain, sent by Mr. Jones.

Highly Commended.—No. 154. *Amellus* Beate Parfaite, sent by Mr. Ruys. No. 143. *Amellus* Berry's Favourite (A.M., 1904), sent by Mr. Ruys. No. 159. *aeris*, sent by Mr. Ruys. No. 159. *cordifolius* Ideal, sent by Mr. Ruys. No. 111. *ericoides* Golden Fleece, sent by Mr. Jones. No. 113. *ericoides* May, sent by Mr. Jones. No. 116. *ericoides* Mona, sent by Mr. Jones. No. 119. *ericoides* Amy, sent by Mr. Jones. No. 121. *ericoides* Blue Star, sent by Mr. Jones. No. 123. *ericoides* Mrs. A. E. Underdown, sent by Mr. Jones. No. 26. *Novi Belgii* Hilda, sent by Mr. Jones. No. 47. *Novi Belgii* Edith Mills, sent by Mr. Jones. No. 76. *Novi Belgii* Cleopatra, sent by Mr. Ballard. No. 65. *Moonlight* (Novi Belgii), sent by Mr. Ballard. No. 7. *Novi Belgii* Ryecroft Purple, sent by Mr. Ruys. No. 22. *Novi Belgii* Ethel Ballard, sent by Mr. Ballard. No. 27. *Novi Belgii* Mrs. Twinn, sent by Mr. Jones. No. 28. *Novi Belgii* Walloon, sent by Mr.

Jones. No. 29. *Novi Belgii* Lady Lloyd, sent by Mr. Ballard. No. 44. *Novi Belgii* Jupiter, sent by Mr. Ballard. No. 52. *Novi Belgii* Brunsch, sent by Mr. Wells, jun. No. 57. *Novi Belgii* Mira, sent by Mr. Ballard. No. 69. *Novi Belgii* Grace Mary Lewis, sent by Mr. Ballard. No. 73. *Novi Belgii* Cardinal Morton, sent by Mr. Jones. Nos. 77, 78. *Novi Belgii* J. S. Baker, sent by Messrs. Baker and Mr. Ballard (A.M., 1907). Nos. 80, 81. *Novi Belgii* Rachel, sent by Mr. Ballard and Messrs. Baker. No. 88. *Novi Belgii* Robinson V.C. (A.M., 1918), sent by Mr. Wells, jun. Nos. 90, 91. *Novi Belgii* Nancy Ballard (A.M., 1912), sent by Mr. Ruys and Mr. Ballard. No. 116. *Novi Belgii* Lavanda, sent by Messrs. Baker. No. 165. *Novi Belgii* Miss Woodall, sent by Mr. W. Simpson, Wetherby. No. 10. *vimineus* pulcherrimus, sent by Mr. Ruys. No. 127. *vimineus* *terrestris* superbus, sent by Mr. Ruys. No. 129. *vimineus* Dorothy, sent by Mr. Jones.

Commended.—No. 35. *Novi Belgii* Ada, sent by Mr. Jones.

The following awards have been made by the Council to Annual Coriopsis after trial at Wisley.

Highly Commended.—Nos. 3, 4. *Drummondii*, sent by Messrs. Barr and R. Veitch. No. 5. *Tiger Star*, re-selected, sent by Messrs. Watkins & Simpson. No. 6. *Tiger Star*, sent by Messrs. Sydenham. No. 7. *compacta* *radiata* *Tiger Star*, sent by Messrs. Barr. No. 17. *nigra* *speciosa* re-selected, sent by Messrs. Watkins & Simpson. No. 18. *Fire King*, sent by Messrs. Watkins & Simpson. No. 20. *Tom Thumbs* *Crimson King*, sent by Messrs. Barr. No. 21. *Crimson King*, sent by Messrs. Watkins & Simpson.

The following awards have been made by the Council to Second Early Potatoes after trial at Wisley.

Award of Merit.—Nos. 1, 2, 3, 4, 5, 6, 74. *Great Scot* (A.M., 1917), sent by Messrs. Sutton, Barr, W. G. Holmes, R. Veitch, Dobbie, Toogood, Carter. No. 7. *Warwick Castle*, sent by Messrs. Sutton. Nos. 17, 18, 19, 20. *Ally*, sent by Messrs. W. G. Holmes, Dobbie, R. Veitch, and Sutton. No. 34. *Frankville Favourite*, sent by Mr. Coghill. No. 51. *Di Vernon*, sent by Mr. Findlay.

Highly Commended.—Nos. 8, 9, 10, 11, 71. *King George* (A.M., 1917), sent by Messrs. Toogood, Sutton, Barr, Dobbie and Carter. Nos. 12, 13, 14, 15, 16. *British Queen* (A.M., 1905), sent by Messrs. Toogood, Barr, R. Veitch, Dobbie, and Findlay. No. 29. *Berwick Castle*, sent by Messrs. Sutton. No. 16. *Sir Edward Carson* (syn *British Queen*), sent by Mr. Sands.

Commended.—No. 43. *Early Round*, sent by Messrs. Stuart & Mein. No. 43. *Early Market*, sent by Messrs. Sutton. No. 63. *K. of K. No. 2*, sent by Mr. Findlay.

Notes.

CRATEGUS FLEXORIS.

This is a small growing tree from the South-eastern United States. It grows 6 or 7 feet high, forming a shrub or small tree with dark shining green leaves and creamy white flowers about $\frac{1}{2}$ inch in diameter singly or in twos and threes. At present the yellow globose fruits are attractive.

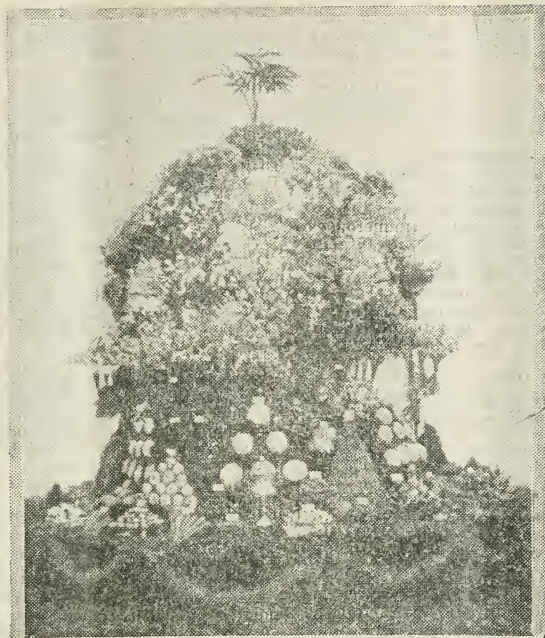
BERBERIS SUBAULALATA.

At present this may be described as a partially evergreen Barberry, but probably during a hard winter deciduous. It belongs to what is sometimes described as the *B. Wilsona* group. From this species *B. subaaulalata* is readily distinguished by its upright and stronger shoots. In this respect it comes nearer *B. Staphana*, but this species has



Messrs. Webbs' exhibit at the National Sweet Pea Society's and Birmingham Horticultural Society's combined Show, 1920.

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rather smaller leaves and oval fruits. Growing 4 or 5 feet high, probably eventually more, *B. subcauliculata* is an interesting subject for shrubbery borders. In public parks it would be a useful barrier with the very spiny and close-growing branches. In early winter the salmon-red berries are abundant and showy. All three species are natives of China.

VIBURNUM BETULIFOLIUM.

This appears to be the most consistently useful of several deciduous *Viburnums* of recent introduction from China, and valued for their attractive fruits. It is some 8 feet high, a numerously red-brown branched shrub, having in autumn corymbs of dark red fruits, which hang on the bushes until early winter. Mr. Wilson describes *V. betulifolium* as a fairly common shrub in Hupch and Szechuen, seeds being included in his 1901, 1907 and 1910 collections. It is readily raised from seeds, and thrives in most soils.

ERICA ALPINA.

This is the most hardy of the Tree Heaths. In a large group of plants at Kew some of the bushes are 10 feet high, while several shrubs growing as lawn subjects are beautiful specimens 8 feet high and as much in diameter. The rich, lively green leaves are attractive at all seasons, though particularly effective in winter. The white flowers are borne in spring later than on the bushes of *E. arborea* and *E. lusitanica* (*cadonodes*). *E. alpina* is a native of the mountains of Cuenca Spain.

SARCOCOCCA RUSCIFOLIA.

There is much to admire in this low-growing evergreen shrub introduced by Mr. E. H. Wilson from Ichang in 1901. It has small fragrant white flowers produced in winter, but it is as an evergreen to carpet beneath trees that this *Sarcococca* will be most valued. Its dark, rich leathery-green leaves form an attractive carpet 1½ to 2 feet high.

Notes from my Rock Garden.

By AMARANTHE.

THE following extract from Mrs. Earle's delightful little book, "Pot-pourie from a Surrey Garden" exactly expresses the frame of mind in which I am

tackling some strenuous work in the rock garden, and I am sure I am not the only one who would echo her words: "People say, what could you do in the garden in winter?" But no true gardener would make this remark, as there is so much to be done at all times and seasons. Half the interest of the garden is the constant exercise of the imagination. You are always living three or, indeed, six, months hence. I believe that people devoid of imagination never can be really good gardeners. To be content with the present and not striving about the future is fatal." I would go a step further, and say that there is always quite a satisfactory return for the careful work that we do and the visions that we see.

"Patient conquering of difficulties"—to again quote Mrs. Earle—is the keynote of success. Spring brings so much to be done, that I consider every moment now spent in re-arranging matters is valuable and interesting by reason of the imagination being exercised as well as the hands and feet.

All through the winter, in suitable weather, paths can be made or improved, the position of stones may be altered to please the eye, all weeds or their tiniest seedlings eradicated, the plants that flourish by being wedged round with stones can be made firm for the winter. Amongst these plants are *Campanula garganica*, *hirsuta* and *Ranunculus Natalis*, placing round the roots fine leaf mould first—the former plant here has been in masses of bloom for months, and is still blooming away. The pale lilac, starry blossoms are very effective with the small, greyish, downy foliage. Damp or flat ground is fatal to this plant, and it is one of the prettiest of easy Campanulas.

Androsaces now require looking to. Fine sand and leaf mould suit them with some gritty, limy mortar. The tiny rosettes quickly form, and may in spring be removed and planted in other quarters. *A. primuloides* is a very pretty variety. A covering of glass to keep off winter rains is essential. Two nice plants that come in very suitably amongst the carpeting and draping plants that play a large part in the vision of loveliness of six months hence are *Pentstemon azureus*, violet and blue flowered, and *Astrantia minor*, both of the erect type of tufty plants. The latter little known plant has just been divided into numerous small plants that will flower next year. The pretty, silvery white blossoms continue long, and the plant is of most easy culture.

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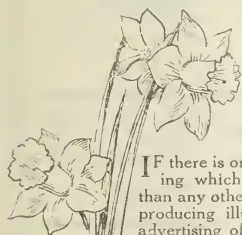
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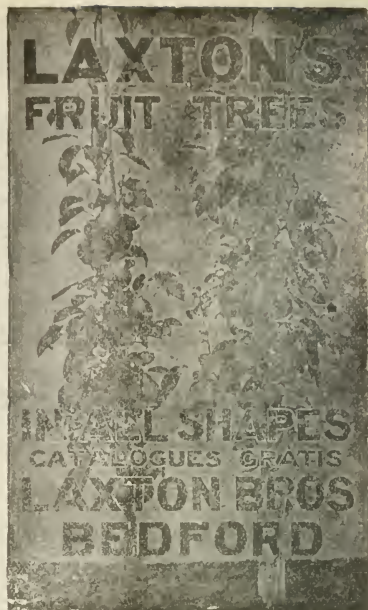
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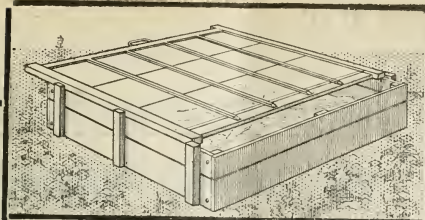
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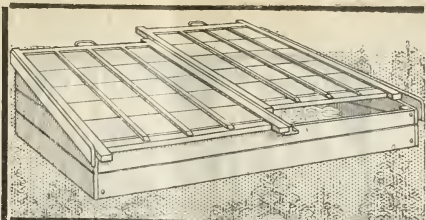
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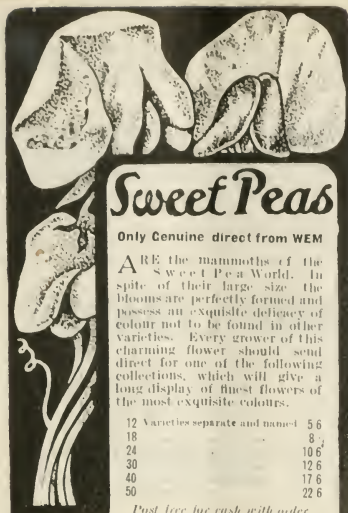
are by general consent admitted to be the best for the soil and climate of Ireland. They are the produce of our own stock seeds, and at our extensive trial grounds every variety, before being sent out, is thoroughly tested ; and exhaustive experiments are constantly being initiated and carried out with the object of still further improving our stocks.

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25, 8/-; 100, 30/-; 1,000, £14.

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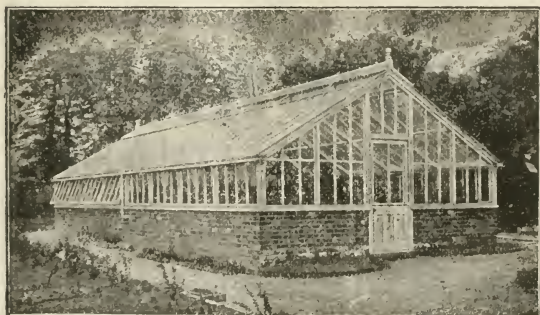
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Royal Horticultural and Arboricultural Society of Ireland.

The monthly meeting of the Council was held in the Society's offices, 5 Molesworth Street, Dublin, on the 14th inst., Col. Sir Frederick W. Shaw, Bart., D.S.O., presiding. Mr. A. V. Montgomery was elected Chairman, and Sir Frederick Shaw Vice-Chairman for the ensuing year, the various committees being re-elected. It was noted that the syllabus in connection with examinations for the Certificate in Horticulture (Ireland), under the auspices of the Department of Agriculture, would very shortly be ready for issue. It was arranged that the schedule committee should meet on the 21st inst., to draft a schedule for the Summer Rose and Sweet Pea Show, the preparation of the schedule for a winter fruit show in October being also under contemplation. Mr. F. W. Millard, Cullinamore, Sligo; Mrs. O'Connor, Leeonfield, Glenageary, and Mr. C. Coster, Kilmoney Gardens, Bray, were elected members of the Society.

Catalogues.

MESSRS. EDWARD WEBB & SONS, OF STOUBRIDGE, have issued their new catalogue of vegetable and flower seeds, and their numerous clients will find it as replete as ever with all that is best in vegetables and flowers. Messrs. Webb have many fine strains of their own raising, their extensive

trial grounds being devoted to the production of the finest and most prolific varieties of flowers and vegetables. The large number of premier awards gained at all the leading exhibitions speaks volumes for the excellence of the firm's wares, while their large and increasing number of satisfied customers is a proof that Messrs. Webb labour successfully to supply goods of first rate quality.

We commend this catalogue to the notice of our readers, who will find pleasure and inspiration, from a perusal of its beautifully illustrated pages.

MESSRS. WILLIAM POWER & CO., WATERFORD, invariably issue an excellent catalogue of seeds, and their new issue is well up to former years. Extremely well printed and admirably arranged, it renders the task of making up the seed order a real pleasure. The contents include the very best in flower and vegetable seeds, some of the firm's own strains being well known and appreciated. The fine selections augur well for their clients in the coming season.

MESSRS. SUTTON & SONS, READING, have issued their catalogue of vegetable and flower seeds for 1921. As usual, it is produced in first-class style, truly meriting the claim of being *The Amateur's Guide in Horticulture*. The illustrations are numerous and of much beauty, themselves an inspiration to the highest endeavour. The selections of all classes of vegetables and flowers are

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A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for syringing and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use. It can be applied with syringe or pump, or used for dipping.

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No. 1. For frames and "lean-to's" up to 1,000 cubic feet. Price, 10d. each.

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This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

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comprehensive, comprising the best in cultivation, and the long and brilliant list of successes gained by the produce of Sutton's seeds, whether exhibited by the firm or by Messrs. Sutton's clients, says more than mere words for the high quality of the goods sent out by the world-renowned Reading firm.

A Catalogue of Hardy Alpine and Herbaceous Plants from Daisy Hill Nursery.

MR. G. N. SMITH, has favoured us with a copy of his new catalogue of Alpine and Herbaceous plants. As always it is of useful pocket size, and full from cover to cover with a remarkably rich and complete collection of good plants, including dwarf shrubs for the rockery. Of the newer and rarer plants offered we note *Allium kausucense*, *Gentiana Furreri*, *orissa macrophylla*, *Oxalis adenophylla*, *Primula chionantha*, *Roseva*, *caulicola*, and many others, while among better known rock plants, large selections are offered of Aubrietias, Phloxes, Primulas, Saxifragas, Irises, etc. Herbaceous plants are also offered in great quantity including the finest Delphiniums, Irises, Anemones, Campanulas, Michaelmas Daisies—everything indeed required to stock a garden with plants for every site and situation.

MESSRS. WM. WATSON & SONS, LTD., have issued their new catalogue of Trees, Shrubs, Climbers, &c., and readers of *Irish Gardening* will do well to secure a copy. It contains a first-rate selection of the very best varieties, being particularly strong in the choicest flowering shrubs. Barberries, Brooms, Cherries, &c., are offered in fine variety, and such rarities as the *Leptospermum*, *Pittosporum*, *Rosa Moyesii*, &c., give the key to the quality of the collection—*no rubbish is included*.

The following catalogues have been received as we go to press:—

EDMONDSON BROS., 10 Dame Street, Dublin, Vegetable and Flower Seeds and Sundries.

BARR & SONS, 11, 12, 13 King Street, Covent Garden, Seed Guide for 1921.

M. ROWAN & CO., Chapel Street, Dublin, Catalogue of Seeds for 1921.

BLACKMORE & LANGDON, Bath, Catalogue of Begonias, Delphiniums and Gloxinias.

Dobbie's Catalogue

And Guide to Gardening Spring 1921

A FREE COPY

will be sent to anyone interested in Gardening who makes application and mentions *Irish Gardening*.

Our House is noted for HIGH-GRADE VEGETABLE and FLOWER SEEDS, and SCOTCH SEED POTATOES, and PLANTS. IN SWEET PEAS WE ARE PRE-EMINENT.

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EDINBURGH.

Fruit Trees.

We grow Fruit Trees so extensively that this department may be said to be the principal branch of our concern, and constitutes much the largest business in fruit trees in this country. This trade has been achieved chiefly through the quality of the trees themselves, and the resulting recommendations of buyers to others. In nearly every county in Ireland many thousands of our fruit trees are flourishing and producing heavy crops. Large quantities of Killiney fruit trees are also absorbed annually by planters in England and Scotland.

We take extreme care to ensure the correct naming of all trees dispatched. We are particular as to the Stocks on which the various fruits are grafted, thereby obviating disappointment and loss to our customers; we have kept in close touch with modern research, tests, and experiments in this matter, and also in regard to the relative value of varieties, utilising the knowledge thus obtained for the benefit of our customers and ourselves.

Popular market sorts of Apples can be supplied by the thousand trees in each variety, and our stock includes all the varieties of fruit trees and berries usually planted in orchard, garden or fruit farm. In the case of trees trained for wall or espalier, we believe we are justified in claiming that ours will bear comparison favourably both in quality and price with fan or horizontal-trained trees from any source, however eminent.

Fruit tree catalogue will be sent free on request.

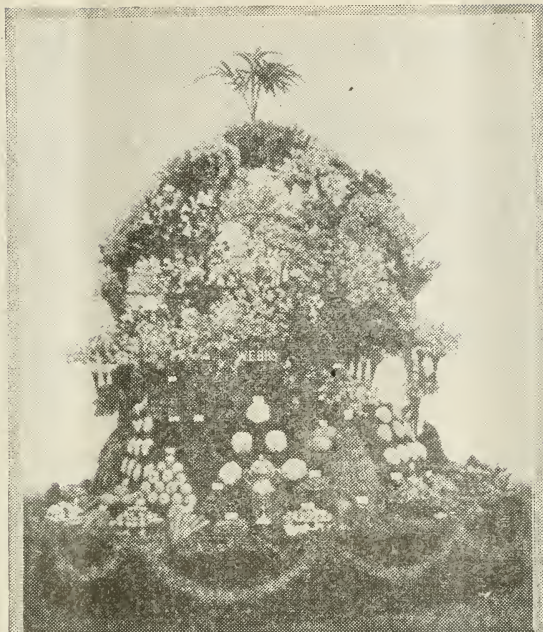
Interesting new catalogue of well-known Ornamental Shrubs and Flowering Trees is now ready, and will be posted free to readers who mention *Irish Gardening*.

WM. WATSON & SONS, LTD., THE NURSERIES,
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Messrs. Webbs' exhibit at the National Sweet Pea Society's and Birmingham Horticultural Society's combined Show, 1920.

Awarded **Large Gold Medal** and **Silver Cup** for best display in the Show.



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H. M. The King's
20 Guinea Cup.

GOLD MEDALS
at Shrewsbury,
Wolverhampton,
Nat. Potato Show,
Oxford, &c.



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Special Exhibition Collection, containing 30 of the finest Varieties to grow for Show purposes, 10/6.

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12 finest named varieties . . .	6/-
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Represented by **Mr. W. ROURKE, North Circular Road, DUBLIN.**
Mr. E. P. McGRATH, 4 Abbey Square, North Mall, CORK.

Trials at Wisley, 1921.

A LARGE number of new Dahlias have been recommended for growing at Wisley in 1921 with a view to the best obtaining awards from the Joint Floral Committee of the R.H.S. and the N.D.S. For the purposes of comparison and establishing a definite standard for each section, it has been decided to invite *raisers* of Dahlias to send to Wisley the six varieties (or fewer if so many are not available), which they consider the best in the respective classes in which they are interested. Three plants of each variety are invited to be sent to reach the Director, R.H.S. Gardens, Wisley, Ripley, Surrey (Horsley Station, L. & S. W. Ry.), by April 30th. The necessary entry forms will be sent on application to him. This appeal is made to raisers only to prevent duplication of varieties, as the space available for Dahlias is limited. The following list of classes has been agreed upon by the Secretary of the N.D.S., and the Director of Wisley. It is to be kept in view that the trial is primarily to bring out the best for garden decoration.

1. Cactus Varieties.
2. Dwarf Bedding Cactus Varieties.
3. Decorative Varieties.
4. Small Varieties.
5. Paeony-flowered Varieties (Large.)
6. Paeony-flowered Varieties (Small.)
7. Single Varieties.
8. Colerette Varieties.
9. Star Varieties.
10. Pompone Varieties.
11. Show and Fancy Varieties for Garden Decoration.

Agricultural Wages Board for Ireland.

The Board met at their Offices, 14 St. Stephen's Green, North, Dublin, on Thursday, 13th January, 1921, when the following were present:—Mr. J. V. Coyle, (Chairman), Mr. R. A. Butler, J.P., Mr. J. Clarke, J.P., Mr. T. Linehan, Mr. J. McLoughlin, Mr. H. Minford, Mr. T. B. Ponsouby, D.L., Mr. W. Clarke, Mr. J. Crangle, Mr. J. Dowling, Mr. J. Everett, M. T. Foran, Mr. E. Lynch, Mr. W. J. Reilly, Miss E. M. Cunningham, M.A., Mr. J. C. Nolan Ferrall, J.P., Lady Russell, and Mr. W. M. Bowers (Secretary.)

There was a general discussion in regard to the exclusion of Ireland from the provisions of the Agriculture Act passed last Session.

A denutation consisting of Mr. R. McClung (Workers' Union) and Councillor Logue (National Amalgamated Union of Labour) waited on the Board for the purpose of submitting a statement relative to the question of revising the minimum rates of wages applicable to counties Antrim, Down, Donegal and Londonderry, a matter in regard to which the District Wages Committees concerned had so far failed to come to any decision.

The Board considered reports received from District Wages Committees, and made several appointments of representatives of employers and workmen to the Committees. A number of applications for exemption were granted, and correspondence and Inspectors' reports relative to the wages paid to workmen in Queen's County, and Counties Carlow, Cork, Fermanagh, Tyrone and Wexford were also dealt with.

Charlesworth's Orchids

Are Noted for their Vigorous Habit and Superior Constitution. Quality and Quantity of Flowers and Reasonable Prices. Our Speciality is the Selection and Crossbreeding of the very Finest Varieties of the different species, raising by the

PURE CULTURE SYSTEM

To Produce the ever popular easily grown
COOL, INTERMEDIATE & WARM HOUSE HYBRIDS

Special quotations given for large or small quantities

ALSO

Osmunda and other Fibres

OF THE FINEST QUALITY

"Phytophiline" & "Vitiphiline" Insecticides

The most effective and non-poisonous preparations for the destruction of all plant pests

CHARLESWORTH & CO., Haywards Heath, SUSSEX

Miscellaneous Section.

Department of Agriculture and
Technical Instruction for Ireland.

Certificate in Horticulture

IT is proposed to institute for award to candidates in Ireland a certificate of proficiency in theoretical and practical horticulture (Certificate in Horticulture). An examination for candidates for the certificate is intended to be held annually in Dublin by the Department, the first in July, 1921. For prospectus of certificate (with examination syllabus) and application form, communicate with

THE SECRETARY, the Department
of Agriculture and Technical Instruction
for Ireland, Upper Merrion St., Dublin.

(Mark envelopes in corner "A.B. Division C.")

*Latest date for making application for admission
to the 1921 examination—18th June, 1921.*

GOLD MEDAL PERENNIAL PHLOX: 12 grand new varieties, 20/-; 12 very fine new varieties, 15/-; 12 very best older varieties, 10/-. **NEW MICHAELMAS DAISIES:** 12 grand new varieties, 20/-; 12 very fine new varieties, 15/-; 12 very best older varieties, 10/-. These are good plants, and delivered, packing and carriage free, for cash with order. **H. J. JONES,** Ryecroft Nurseries, Lewisham, London, S.E. 13.

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Post free on application

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MERSTHAM, SURREY

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DESIGNS & LAYS OUT LAWNS & PLEASURE
GROUNDS, CONSTRUCTS PERGOLAS & PLANTS
WATER, ROCK, FLOWER AND BOG GARDENS

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New List of Hardy Flower Roots

is now ready, post free

The finest stock of Herbaceous Plants
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Hardy Alpine and Herbaceous Plants

FOREST TREES, etc.

New Lists, free on application.

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NURSERY, NEWRY**

THEY ARE THE BEST AND CHEAPEST
ALL HAND MADE



Artistic Fern Pans and Bulb Bowls

*State Quantities and Sizes required, and
have "Carriage Paid" quotation, or
write for Price List—FREE*

RICHARD SANKEY & SON, Ltd.
Royal Potteries, Bulwell, Nottingham



AUTO-SHREDS

Is CERTAIN DEATH to leaf-mining Maggots, White Fly and all Pests infesting Plants under Glass. In boxes to fumigate 1,000 cubic feet, 1/-; 2,500 cubic feet, 1/9; 10,000 cubic feet (for ordinary Plants), 4/6; 10,000 cubic feet (for tender foliaged Plants), 6/- each. Obtained of all principal Seedsmen and Florists. Makers:—

W. Darlington & Sons, Ltd.
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BURNS ON THE GROUND.
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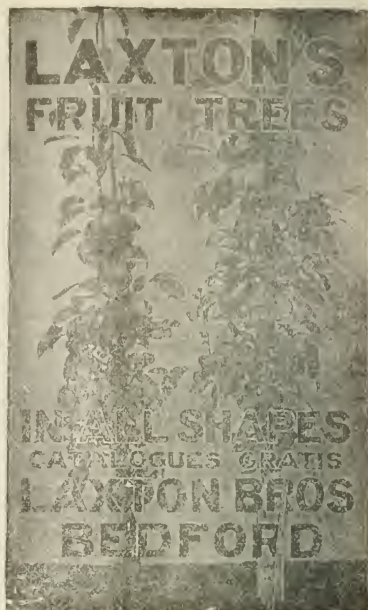
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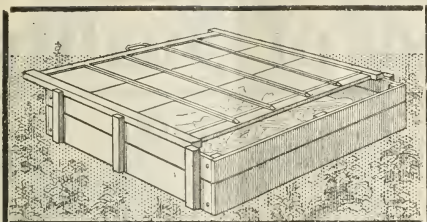
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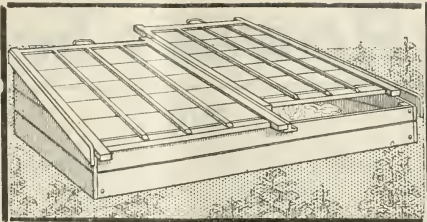
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Ophelia, flesh pink.
Lyon, shrimp pink.
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Lady Ashdown, rose.
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Ten best new sorts **25/-** Carriage Paid.
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Weeping Standards.

10/6 12/6 15/-
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Alberic Barbier, yellow.
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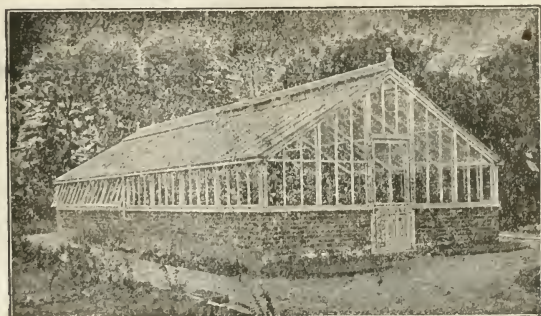
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Royal Horticultural and Arboricultural Society of Ireland.

THE monthly meeting of the Council was held at the offices, 5 Molesworth Street, Dublin, on the 14th ult., Sir Frederick W. Shaw, Bart., D.S.O., presiding. A draft of the schedule for a summer show fixed for July 14th and 15th, as prepared by the Schedule Committee, was discussed, amended, and passed for printing, and minor matters dealt with. The following were elected members of the Society, viz.:—Brigadier-General Crosbie, C.M.G., D.S.O., Walcot, Bray; Mr. Jas. MacKenzie, Hort. Instructor, Munny Lower, Tullow, Co. Carlow; Miss Rothwell, Meenace, Terenure, Miss Blackham, Meenace, Terenure, and Mr. Geo. St. John, Royal Hospital Gardens, Kilmainham.

Catalogues.

MESSRS. DOBBIE AND CO., Edinburgh, have favoured us with a copy of their new Seed and Plant List for 1921. Profusely illustrated and well printed, it is one of the most comprehensive lists in the trade. A noteworthy feature is the excellent cultural directions given with each

different kind of vegetable, together with the quantity of seed required for a given length of row, or area, this is of immense service to amateurs or to young head gardeners making up an order. The packets in which Dobbie's flower seeds are made up also contain cultural directions. Messrs. Dobbie are seed growers on a large scale, and many of their strains are grown on their own seed farms under the personal supervision of members of the firm, hence the excellence of these strains and their success at exhibitions and in the garden. Dobbie's are well known in the potato world, and have been instrumental in introducing some of the most popular varieties in cultivation. This year they are offering only varieties immune to wart disease, with the exception of the popular Midlothian Early. As sweet pea specialists, Messrs. Dobbie are justly renowned, and some of their exhibits at the leading shows have caused little short of a sensation. As growers and raisers of Antirrhinums, the firm has been most successful, having won no less than three gold medals for this popular flower. Many of the finest annuals can be purchased in twopenny packets, a great convenience to many who require a smaller quantity than is contained in the higher priced packets. Gladioli in fine variety, Lilliums and other plants for spring planting, make up a very fine catalogue.

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Fig. 1. Boots cannot Cramp because they do not touch the Hoof.



Fig. 1. Boot for Shod Horses.

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Fig. 2. No-Welt Pattern

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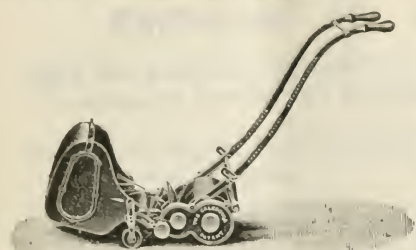
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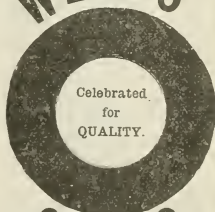
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New Moraine Alpine Plant offered for first time—**Erodium chamædryoides rosea (R.V.P.)**

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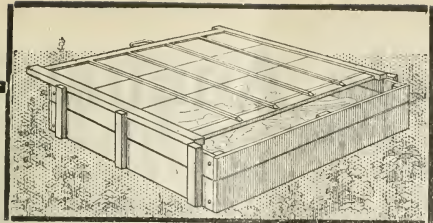
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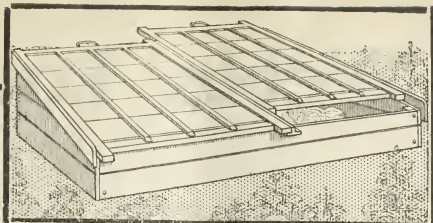
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SPRING SHOW

By courteous permission of The Earl of Iveagh, K.P., the Spring Show will be held in the covered yard, entrance by Earlsfort Terrace, Dublin, on

Wednesday, April 13th and Thursday, April 14th, 1921

Entries close Wednesday, April 6th. Schedules post free from.—

SECRETARY, 5 MOLESWORTH STREET, DUBLIN

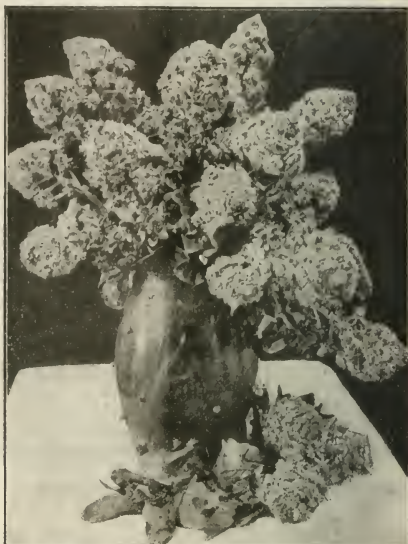
WEBBS' LAWN GRASS SEEDS, for Tennis, Croquet, and Garden Lawns, &c., 3 and 3 6 per lb.; 8 - and 8 9 per gallon. Postage and Carriage Paid

Webbs' Lovely Annuals

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WEBBS' DWARF MIGNONETTE, 8d. and 1s. per pkt.

	Per Packet
ASTER.—Webbs' New Perfection Pink	1s.
Webbs' Ostrich Plume, mixed Colours	8d. and 1s.
Webbs' Bedding do. do.	8d. and 1s.
Webbs' Giant Comet do. do.	8d. and 1s.
ANTIRRHINUM.—Webbs' New Scarlet Queen	1s.
Webbs' Supreme, nearly every shade	6d. and 1s.
CALLOPSIS.—Webbs' Sunbeam, mixed	6d.
Webbs' Golden King, golden yellow	6d.
CANDYTUFT.—Webbs' Coronet	8d.
Webbs' Pink Pearl	8d.
CLARKIA.—Webbs' Double Salmon	8d.
DIMORPHOTHECA.—Aurantiaca hybrida, mixed	8d.
Do. Aurantiaca, orange gold	8d.
DIANTHUS.—Webbs' Meteor, Scarlet	8d. and 1s.
Webbs' Salmon Queen	8d. and 1s.
ESCHSCHOLITZIA.—Webbs' Carmine Gem	8d. and 1s.
Webbs' Buttercup	8d. and 1s.
GODETIA.—Webbs' Double Rose	8d. and 1s.
Webbs' Carmine Queen	8d.
Webbs' Brilliant, crimson	8d. and 1s.
LARKSPUR.—Webbs' Ensign, many shades	8d. and 1s.
Webbs' Stock-flowered	4d.
LAVATERA rosea splendens	8d.
LOBELIA.—Webbs' Bluebeard, deep blue	8d. and 1s.
Webbs' Magpie, blue and white	8d. and 1s.

	Per Packet.
LUPINS. Blue, White, Rose and Mixed each	4d.
MIGNONETTE.—Webbs' Giant	8d. and 1s.
Webbs' Red King	8d. and 1s.
Webbs' Golden Gem	8d. and 1s.
NASTURTIUM. TALL.—Webbs' Sunrise, rose	8d.
Webbs' Vesuvius, Crimson	8d.
NASTURTIUM. DWARF.—Webbs' Meteor, crimson	8d.
Webbs' Bedding Gem, scarlet	8d.
NICOTIANA. Sanderae, rosy-carmine	8d. and 1s.
Do. mixed	8d. and 1s.
NEMESIA strumosa, large-flowered	1s.
NIGELLA, Miss Jekyll	8d. and 1s.
PXLOX DRUMMONDI, Webbs' Fringed	8d. and 1s.
Webbs' Paragon Dwarf	8d. and 1s.
POPPY.—Webbs' Selected Shirley	8d. and 1s.
SALPIGLOSSIS.—Webbs' Harlequin, mixed	8d. and 1s.
STOCK.—Webbs' Snow Admiration	1s.
Webbs' Bedding	8d. and 1s.
Webbs' Large-flowered Ten Week	8d. and 1s.
SWEET PEA.—Webbs' Large-flowering, Mixed	8d.
SWEET SULTAN.—Purple, White, Yellow each	6d.
SCABIOUS, Webbs' Giant, White, Black, Pink	8d.
and mixed each	8d.
VISCARIA, mixed	4d.

WEBB & SONS, The King's Seedsman, **Wordsley, STOURBRIDGE**

Represented by Mr. W. ROURKE, 4 Weston Terrace, North Circular Road, DUBLIN.

WEBBS' LAWN GRASS SEEDS, for Tennis, Croquet, and Garden Lawns, &c., 3 and 3 6 per lb.; 8 - and 8 9 per gallon. Postage and Carriage Paid

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PLANTS OUT OF 1½ INCH POTS

20 in 20 varieties 20/-

50 in 50 varieties 50/-

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All you want to know

YES, and more besides. The April Special Spring Number of "The Busy Bee," published by Bees, Ltd., for the express benefit of their numerous customers, will delight the heart of every amateur gardener who reads it. It contains the cream of seasonable advice written by experienced gardeners. The "Adam" page, in which "Old Adam" replies to queries, is especially useful, and is sure to impart at least one valuable hint to each person who reads it. Besides the above, the April issue of "The Busy Bee" contains a special supplement which has been compiled with the object of providing Bees' customers and readers of "The Busy Bee" with a handy illustrated list of gardening, household, and novelty articles at prices within the reach of every purse. Each article in this list has been carefully selected by Bees' "L.S.D." Department, which has, for a long time, been busily engaged in investigating the claims made by a host of manufacturers, testing and proving the utility of scores of new ideas, and eliminating everything which is not different, better, or less costly. The Household and Children's page of this special number also contain much interesting and useful information. Price 2s. 6d. per year, post free. Address: "THE BUSY BEE," 175 Hill Street, Liverpool.

THE CREAM OF BEDDING VIOLAS

Customer's Selection. 4s. doz., 25s. 100. Bees' Selection. 3s. 9d. doz. 23s. 100. Carriage Paid.

Not less than 6 plants of same name at dozen rate, or less than 25 at 100 rate.

Single Plants, 5s. each. Postage on less than 1 dozen, 6d.

Collections.—100 plants. 20 each 5 sorts, 23s.; 36 plants. 6 each 6 sorts, 10s. 6d.

Blue King, rich blue
Cream King, soft cream
Coun. Waters, velvety purple
Dove, white, edged blue
J. Quartin, light mauve
J. B. Riding, crimson rose
King Cup, golden yellow

Magpie Mott, rosy lavender
Moseley Perfection, gold
orange
Mrs. Chichester, cream edged
purple
Primrose Dame, primrose
Snowdriit, pure white

Bees Ltd
Liverpool.

Hardy Alpine and Herbaceous Plants

FOREST TREES, etc.

New Lists, free on application.

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CHRYSANthemUMS

General Catalogue of all Leading Varieties, also Novelty Lists now ready, post free from—

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Sow **Hawtmark** Seeds

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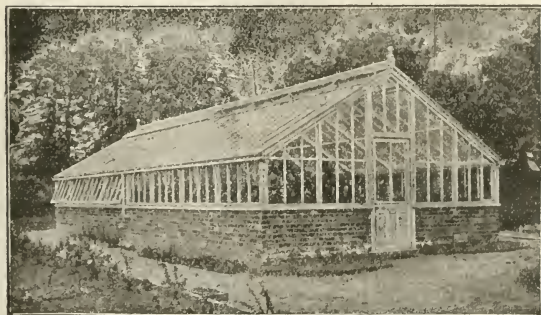
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HEATING ENGINEERS

Plans and Estimates prepared free
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Royal Horticultural and Arboricultural Society of Ireland.

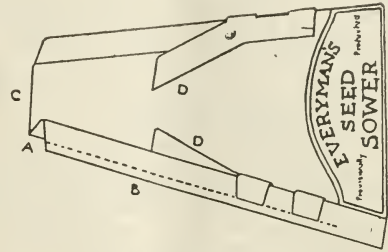
THE monthly meeting of the Council was held at the offices, 5 Molesworth Street, Dublin, on the 11th ult., Mr. Ed. D'Olier presiding. Judges were nominated for the spring show, to be held by kind permission of The Earl of Iveagh, K.P., in the covered yard, 80 St. Stephen's Green, entrance by Earlsfort Terrace, on Wednesday, April 13th, and Thursday, April 14th, entries for which close on Wednesday, April 6th. The Bray Horticultural Society was affiliated with the Royal Horticultural Society of Ireland, and minor business was transacted.

Everyman's Seed Sower.

THIS is an ingenious device for sowing seeds, and judging from the sample kindly submitted by the makers, it is likely to fulfil the object for which it is designed.

The great fault with most beginners is in sowing too thickly; by using the Seed Sower this is entirely obviated. The illustration shows the principle of the instrument at a glance. By means of regulators attached to the side flanges, the opening through which the seeds pass can be adjusted to any size, and thus the flow of seed is regulated. The flow may

be maintained by running the Sower along a tightly stretched line, which causes a vibration: but as lines are usually drawn before sowing is begun, the flow of seed can be brought about equally well by a slight



A, front edge; B, flange; C, lip; D, regulators.
For method of using see p. xii.

movement of the hand. This is the same as sowing out of a packet, but with the advantage that the seed is controlled by the regulators, and so more seed cannot fall in one part of the line than another.

For all kinds of small seeds, such as Onions, Turnips, Leeks, Carrots, Parsley, Radishes, &c., the Sower should rapidly become popular.

EDMONDSON'S

FOR

Garden Seeds
Seed Potatoes
Garden Implements

EDMONDSON BROTHERS

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Established 69 Years

Phone: DUBLIN, 1721 (two lines)

Black's Gardening Dictionary.*

The need for a good Dictionary of Gardening, not over-burdened with botanical and other scientific terms, has long been felt.

Gardening is now so universal among people who do not care about botanical definitions that it was highly necessary to provide them with a reliable work of reference, and this the publishers, through the Editor, Mr. E. T. Ellis, have succeeded in doing. The work is a real book of reference for all the operations of the garden in every phase. The Editor has carefully placed the work of writing the articles on the manifold subjects connected with gardening in the hands of contributors who have made a special study of each subject. Thus to mention only a few among the many, Mr. A. D. Cotton, F.L.S., writes on Plant Diseases; Dr. Albert Gilligan, D.Sc., B.Sc., &c., on Soils; C. P. Chatwin, F.G.S., on Garden Geology; C. Turner, on North Borders and Shady Borders; Charles Wakely on Increased Production on Allotments; Ernest M. Bear, on Spraying Fruit Trees; Edward White, Garden Design on Modern Lines; Edwin Beckett, V.M.H., on Exhibition Vegetables; Dr. Frank Cavers, D.Sc., &c., on Plant Physiology; Professor Theobald on Insect Pests; and Professor

* Published by Messrs. A. & C. Black, Soho Square, London, W. Price 15s. net.

Carpenter, of the Royal College of Science, Ireland, on Insect Friends, and so on. Every practical operation in the garden and every science underlying the practice is dealt with by an expert. Fruit, Flowers and Vegetables receive adequate treatment in simple, easily understood language, while full lists are given of the best varieties of hardy herbaceous plants, alpine plants, trees, shrubs, &c. Important genera are frequently dealt with by one writer as for Irises, which are treated of by Mr. W. R. Dykes, M.A., the greatest living authority on the genus.

Manures are more fully and completely dealt with than in any other publication we have recently seen, and by men of standing in the practical and scientific aspects.

Mr. J. T. Barker, one of the ablest cultivators of Orchids, discusses the management of the Orchid House, and very properly disposes of the myth that there is something mysterious and difficult in the cultivation of Orchids; potting and watering are treated of by R. Man Rolfe, V.M.H., A.L.S., trained as a cultivator, and latterly the best known botanical authority on Orchids. Species and varieties are treated of in masterly manner by Mr. Gurney Wilson, F.L.S., Editor of the *Orchid World*. The articles on Arithmetic and Gardening by Stanley Bennet Lucas, M.A., Chairman of the Assistant Masters' Association, must be of the utmost use to every worker in, and owner of, a

THE "PATTISSON" HORSE BOOTS

ONCE TRIED, ALWAYS USED.

SIMPLEST! STRONGEST! MOST ECONOMICAL



Fig. 2. Welting Pattern.
Copper Riveted.

Fig. 1. Boots cannot Cramp because they do not touch the Hoof.



Fig. 1. Boot for Shod Horses.

Entirely Metal to Metal Fastening. Perfect Ventilation.

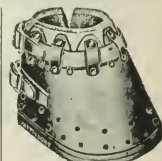


Fig. 2. No-Welt Pattern

Used for many years in the Royal and in thousands of the Principal Gardens in Great Britain and Ireland. Over 10,000 Sets used in the United Kingdom. HUNDREDS OF TESTIMONIALS. Soles of best English Sole Leather (Waterproofed), with Motor Tyre Rubber Studs, or Rubber Soles Strongly Recommended. Repairs.—The "PATTISSON" BOOTS can be resoled repeatedly equal to New Boots, but this can only be satisfactorily done by us, the Makers.

Silver Medals.—Royal Horticultural Society,

1904, 1914, Royal International Horticultural Exhibition, 1912.

H. PATTISSON & CO., 406 Greyhound Lane, STREATHAM, S.W.



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USE

THOMSON'S MANURES

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The direct results of many years' practical experience in gardening, they stand unrivalled at the present day for every description of Fruit bearing, Flowering and Foliage Plants, Vegetables, Lawns, etc., etc.

Vine, Plant and Vegetable Manure, 1 cwt., 36/-; 56 lbs., 19/-; 28 lbs., 10/6; 14 lbs., 6/-; 7 lbs., 3/6; tins, 1/6.

Special Top-Dressing Manure, 56 lbs., 19/-; 28 lbs., 10/6; 14 lbs., 6/-; 7 lbs., 3/6.

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SOLD BY NURSERYMEN AND SEEDSMEN EVERYWHERE.

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DAISY KILLER

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INSECTICIDES

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Barrow-on-Humber, HULL

Ask Your Nurseryman or Seedsman

For the following Well Known and Highly
Efficient Horticultural Preparations.

THE CHEAPEST INSECTICIDE OF THE DAY

"NIQUAS"

(NON-POISONOUS)

IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for syringing and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/4; pint, 2/3; quart, 3/9; half-gallon, 6/-; gallon, 11/-; five gallons, 36/-; ten gallons, 62/6; twenty gallons, 120/-; 1 gallon sufficient for 80 gallons of water.

STANDEN'S MANURE

(Established over 36 Years)

Exceeds all others in General Fertilising Properties and Staying Powers

Analysis on Application

Sold in Tins, 9d., 1/6, 3/9, 7/- each. Cheaper in Bulk.

For Fumigating in Greenhouses.

"LETHORION"

IMPROVED METAL CONES

Registered No. 62,697

To destroy Insect Pests. The Candle attached to each Cone only needs lighting, and there is no further trouble. They are most efficacious.

No. 1. For frames and "lean-to's" up to 1,000 cubic feet. Price, 10d. each.

No. 2. For small greenhouses up to 1,500 cubic feet. Price, 1/3 each.

No. 3. For a well secured house of 2,000 to 2,500 cubic feet. Price, 1/9 each.

FOWLER'S LAWN SAND

This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Tins, 1/6, 3/9 and 7/- each; Bags, 1/2 cwt., 11/-; 1 cwt., 21/-; 1 cwt., 39/-

ELLIOTT'S

"SUMMER CLOUD" SHADING

Registered Trade Mark No. 14,628.

(The only genuine original and improved article)

For Greenhouses. A pleasant green shade is given to the glass. In packets, 1/6 for 100 feet of glass, and 4/- each for 300 feet.

Sole Manufacturers:

CORRY & Co., Limited

Merchants and Manufacturers of Nurserymen, Seedsmen and Florists
Sundries and Tobacco Preparations Free of Duty, for Agricultural
and Horticultural Purposes.

To be obtained from all dealers in Horticultural Sundries

Dobbie's Catalogue

And Guide to Gardening. Spring 1921

A FREE COPY

will be sent to anyone interested in Gardening who makes application and mentions *Irish Gardening*.

Our House is noted for HIGH-GRADE
VEGETABLE and FLOWER SEEDS, and
SCOTCH SEED POTATOES, and PLANTS.

IN SWEET PEAS WE ARE PRE-EMINENT.

Dobbie & Co., Ltd., Seedsmen & Florists
to H. M. the King.
EDINBURGH.

garden. In all, over 130 writers have contributed articles, and they include most of the eminent cultivators of the present day as well as the most eminent scientists working in close connection with gardeners and farmers.

It is impossible to go closely into the merits of all the articles in a brief review, but we are unable to detect any serious mistakes, although it might be possible to differ to some extent with certain views—for instance, we find it difficult to believe that *Erigeron Asa Grayi* is a variety of *E. speciosus*, and we dissent from the statement that *E. nuttallii* is white-flowered, since it is a dwarf species, not more than six inches high, with yellow flowers. Mistakes in spelling are notably few, though we note *Rhododendron cinnamomeum* is spelt with *n* instead of *m* before the *e*, and it should be classed as a variety of *Rh. arboreum*, and not as a species. These, however, are trifles, and do not seriously detract from the value of the work in general.

We are certainly of the opinion that Black's *Gardening Dictionary* is the best and most complete work on gardening issued for some considerable time, and is not likely to be superseded except by a new edition of the same work.

Eel Worm in Narcissis.

MR. J. K. RAMSBOTTOM (working in conjunction with the firm of Messrs. Geo. Munroe & Sons, on their bulb farm at Spalding) and Messrs. Chas. Hearson & Co., Ltd., London, have perfected an apparatus whereby bulbs affected by eel worm may be treated to the hot-water system. In all cases where the hot-water cure has been tried it

has been found exceedingly difficult to maintain an even temperature, which is of prime importance, both for the killing of the eel worm and in order to prevent injury to the bulbs themselves. This difficulty has, we understand, been effectively overcome in the machine invented by Messrs. Hearson & Co.

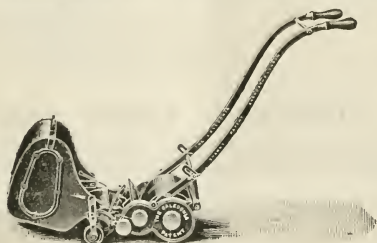
The machine, of which a demonstration was given at Spalding on August 3rd, has been designed to treat 1½ cwt. of bulbs at a time. The bulbs are put into a sort of gunny-bags, and these in turn are put into the inner perforated tank. Four bags, holding about 42 lbs. of bulbs, are treated at a charge. The heat may be generated by oil, gas, or by electricity. The temperature that it is necessary to maintain is 110°F., and this is secured by a thermostatic arrangement that appears to work admirably. Other machines are being manufactured for the use of specialists. We hope that the machine will also be possible to be used for dealing with the destructive narcissus fly larvæ. It may be recalled that Messrs. Charles Hearson gave to the world the finest egg incubator that has yet been produced, and that the firm, which was recently taken over by Messrs. Spratt's Patent, Limited, is known to every scientist throughout the world for its biological, chemical, and physiological research apparatus.

Agricultural Conditions in Ontario.

The latest reports of the Ontario Department of Agriculture give the following particulars of present conditions:—

All grains except spring wheat continue to show well in the threshing—better than was estimated at harvesting.

Lawn Mowers



Ransomes' Pony and Horse Machines

Shanks's do. do. do.

Pennsylvania High Wheel for Golf Links

Ontario High-class, close cutting, Jewel and Clipper, four and five blade

Prices etc., from

Thos. McKenzie & Sons, Ltd.
DUBLIN

Aster Perry's White

A.M. R.H.S. SEPT. 1920.

The finest white Michaelmas Daisy yet introduced.

Horticultural Advertiser.—"Perry's White Aster is a champion big bloom, and purer white than any other variety, very pure and clear in colour; a fine acquisition."

Gardener's Chronicle.—"Large circular flowers of excellent form."

The Garden.—"A great outward move in single white varieties. We have seen nothing half so good, in size, floriferousness, or purity."

Horticultural Trade Journal.—"Aster Perry's White is equal to the most exacting demands—its whiteness is purity itself."
26 each.

Aster Maggie Perry

A.M. R.H.S. SEPT. 1920.

A beautiful new variety, delightful shade of soft mauve, flowers 2½ in. across, closely resembling a miniature Japanese Chrysanthemum.

Horticultural Advertiser.—"Very large flowers in immense tufts; one of the most distinct and striking novelties in this family."
26 each.

1 strong plant of each free by post for 4/6.

PERRY'S HARDY PLANT FARM
ENFIELD, MIDDIX.

The new fall wheat is in fair condition.

At Perth, Ontario, cheese has been sold by auction at 1s. 1d. per lb.

Little pigs are bringing from £3 4s. to £3 12s. a pair, and bacon hogs at from £4 to £5 2s. per cwt.

Wheat is selling freely at about 9s. 6d. a bushel.

Some farmers are buying threshing machines on the co-operative plan.

There was a bumper crop of peaches this year, and a large quantity was lost owing to scarcity of pickers and baskets.

Awards of Spinach and Turnips on Trial at Wisley.

THE following awards have been made by the Council of the Royal Horticultural Society after trial at Wisley:—

WINTER TURNIPS.

Award of Merit.—No. 66, All the Year Round, sent by Messrs. Toogood.

Highly Commended.—No. 11, White Egg, sent by Messrs. Burpee. No. 52, Golden Ball, sent by Messrs. Cooper Taber. No. 63, Yellow Dutch, sent by Messrs. Carter.

Commended.—No. 44, Green-top Six Weeks, sent by Messrs. Toogood. No. 45, Golden Rose, sent by Messrs. Carter.

SPINACH, WINTER.

Award of Merit.—No. 16, Broad Flanders, sent by Mr. W. G. Holmes.

Highly Commended.—No. 4, Boston, sent by Messrs. W. Johnston. No. 6, Prickly, selected, sent by Messrs. Toogood.

Commended.—No. 3, Munsterland, sent by Messrs. Barr.

Scale Insects.

Various scale-insects may be found on fruit trees; the best known is perhaps, the "mussel-scale" of the Apple. The young insects are active but they soon settle down to a sedentary life under the firm "scales" which are formed of their waxy secretion and their cast-off skins. Beneath the protective scale the wingless female lays her numerous eggs which remain thus sheltered through the winter—the active young appear next spring. The winter caustic alkali wash with paraffin is effectual against this pest, and paraffin emulsion can be advantageously applied in summer with a hard brush or as a spray. Rigorous inspection of new stock should be practised, as a few neglected scales may begin the ruin of a valuable tree.

Apple Suckers.

The insects called Apple Suckers are closely related to the aphids, and feed in a similar way; they have, however, firmer skins and a characteristic flattened shape. The eggs are laid in autumn and remain unhatched through the winter, the young insects appearing in the spring when they suck sap from leaf-buds, leaves and especially from flower buds, whose growth is so far stopped by their presence that fruit cannot form. About midsummer the insects become fully grown and provided with wings, after which they do little damage. The most vulnerable point in life-cycle is, however, the autumn before the eggs are laid, and the winged adults should then be attacked with paraffin emulsion spray.

Charlesworth's Orchids

Are Noted for their Vigorous Habit and Superior Constitution. Quality and Quantity of Flowers and Reasonable Prices. Our Speciality is the Selection and Crossbreeding of the very Finest Varieties of the different species, raising by the

PURE CULTURE SYSTEM

To Produce the ever popular easily grown
COOL, INTERMEDIATE & WARM HOUSE HYBRIDS

Special quotations given for large or small quantities

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OF THE FINEST QUALITY

"Phytophiline" & "Vitiphiline" Insecticides

The most effective and non-poisonous preparations for the destruction of all plant pests

CHARLESWORTH & CO., Haywards Heath, SUSSEX

Hardy Annuals.

The first half of April is an excellent time to sow annuals in the open ground. The prospect then of showery weather with bursts of warm sunshine is favourable to rapid germination, and it is a distinct advantage to get a good start with annuals as with other plants. The number of reliable annuals is now so great, and the varieties so improved, that there is no difficulty in making selections to suit every garden and every situation or aspect. Thorough preparation of the soil is essential. This does not necessarily mean heavy applications of manure, but the soil should be deeply worked and made at least moderately rich. Complaints are often made that annuals are soon over, but this is often due to imperfect cultivation. Given reasonable treatment in preparing the soil and in timely and adequate thinning out, most annuals will flower over the greater part of our summer and autumn. Thinning is important, otherwise the seedlings crowd each other and grow up weak and quite unable to develop decent flowers or to support the flowers for any length of time.

Among the taller annuals which may be sown in the open may be mentioned *Chrysanthemums* of the Star group, viz.: *Eastern Star*, *Northern Star*, &c.; *Ch. coronarium*, yellow; *Larkspurs* in white, rose and violet; *Lavatera rosea* and *rosea splendens*; Annual *Lupins* in various colours; *Pæony*-flowered and *Carnation*-flowered *Poppies*; *Scabiosas* in various colours, and *Mulope grandiflora*, red and white. Those of medium height, say from fifteen inches to two feet, include *Lychnis celi-rosa*, pink; *Anchusa capensis*, blue; *Calendula officinalis*, Meteor, Prince of Orange, &c., yellow and orange; *Corcopsis tinctoria*, orange and brown, and *C. Drummondii*, yellow; *Candytuft*, white and pink; *Clarkia elegans*, pink and salmon-coloured; *Collinsia bicolor*, lilac and white; *Convolvulus tricolor*, blue and white; *Cornflower*, blue; *Eschscholzia*, creamy white, yellow and orange crimson; *Gilias*, *Godelias*, *Linum grandiflorum rubrum*, *Mignonette Nasturtiums*, *Shirley Poppies*, &c.

Dwarfier sorts for edgings and the front of borders include *Alyssum maritimum*, white; *Asperula azurea*, blue; *Eucharidium Breweri* and *E. concinnum*, pink; *Candytufts*, *Phacelia campanularia*, blue; *Saponaria*

calabrica, pink; *Malcomia maritima*, pink and white, and many others, according to taste.

Sweet Peas, perhaps the most popular of all hardy annuals, are now so generally raised in pots or boxes for planting out in April that many do not think of sowing them directly in the open ground. Nevertheless, there must be thousands of people who have no convenience for sowing in frames, and it is well to know that an excellent late summer and autumn display may be had from sowing in the open ground early in April. The soil should be deeply worked, and the seeds sown four inches or so apart and two inches deep. Stakes or other support must be supplied early to enable the young plants to get hold as soon as they begin to stretch. Avoid allowing seeds to form, and plenty of good flowers should be available far into autumn.

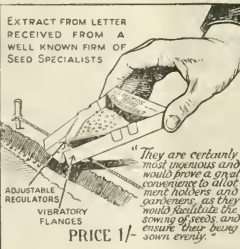
"Red Spider."

The little red mites known to gardeners as "red spider" are not true insects, but they feed on leaves like the aphids, by piercing the tissues and sucking sap. They are especially injurious to currant and gooseberry foliage, over which they spin a thin white web. They pass the winter in the adult state and lay their eggs in summer. Ivy is commonly infected with them, and they appear to migrate often from ivy to the fruit bushes. The best remedy is to spray with paraffin emulsion, with the addition of 1 oz. "liver of sulphur" to every 3 gallons of the dilute emulsion.

EVERYMAN'S SEED SOWER

ECONOMISES THE SEED AND

SAVES THINNING OUT



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If your dealer is out of stock send 1/2 for Sample post free to

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TO SEED MERCHANTS

IF there is one kind of advertising which lends itself more than any other to artistic result-producing illustration it is the advertising of Seeds.

The more you illustrate the better the results. We produce very beautiful Line, Tone, and Colour blocks for this purpose.

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LITTLE'S

LIQUID AND POWDER.

In Tins and Drums—
½, 1, 2, 5, 10 gallon.

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To make 12, 25, 100
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LITTLE'S FRUIT TREE WASHES.
BOOKLET ON APPLICATION.
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Miscellaneous Section.

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TRAINING IN—
Agriculture, Horticulture and
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Young men who desire to attend any of the courses in the above-mentioned subjects, to be provided by the Department during the year 1921-22, should apply without delay for prospectuses, &c., to

THE SECRETARY, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion St., Dublin

Envelopes should be marked in corner—
"Agricultural Branch (Division C)"

Department of Agriculture and Technical Instruction for Ireland.

Certificate in Horticulture

IT is proposed to institute for award to candidates in Ireland a certificate of proficiency in theoretical and practical horticulture (Certificate in Horticulture). An examination for candidates for the certificate is intended to be held annually in Dublin by the Department, the first in July, 1921. For prospectus of certificate (with examination syllabus) and application form, communicate with

THE SECRETARY, the Department of Agriculture and Technical Instruction for Ireland, Upper Merrion St., Dublin.
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Latest date for making application for admission to the 1921 examination—18th June, 1921.

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Catalogue of **Herbaceous and Alpine Plants, Aquatics**, etc., now ready for 1921. Many new and valuable additions will be found therein. **New Aubrietias, New Saxifragas.**

New Moraine Alpine Plant offered for first time—**Erodium chamædryoides rosea (R.V.P.)**

Catalogue sent free, 2d. stamp

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Established 30 Years

ALPINES

I have a number of choice Alpines for sale; all pot grown. Catalogue on application to:—L. B. Meredith, Graigueconna, Bray. Author of "Rock Gardens: How to make and maintain them."

THEY ARE THE BEST AND CHEAPEST

ALL HAND MADE

Artistic Fern Pans and Bulb Bowls



State Quantities and Sizes required, and have "Carriage Paid" quotation, or write for Price List—FREE

RICHARD SANKEY & SON, Ltd.
Royal Potteries, Bulwell, Nottingham

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BURNS ON THE GROUND
NO APPARATUS REQUIRED

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IS CERTAIN DEATH to Leaf-mining Maggots, White Fly and all Pests infesting Plants under Glass. In boxes to fumigate 1,000 cubic feet, 1/-; 2,500 cubic feet, 1/9; 10,000 cubic feet (for ordinary Plants), 4/6; 10,000 cubic feet (for tender foliaged Plants), 6/- each. Obtained of all principal Seedsmen and Florists. Makers:—

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The two main elements of success in gardening are proper tillage and
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Always follow up your Autumn and Winter manuring with a top dressing in the Spring and early Summer of

Nitrate of Soda

Any of the
Leading
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It is easily applied—quick in its action—and a necessary ingredient
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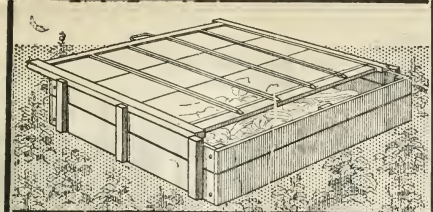
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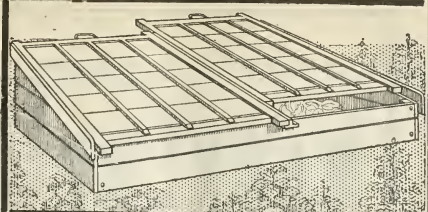
25 Chichester Street
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Friars Buildings, New
Broad St., LONDON.
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No. 80.—This is an Ideal Frame for Allotment Holders and Smallholders. Size, 4 ft. 9 in. by 3 ft. 9 in. Sides, 9 in. high. Painted two coats and glazed with 15 oz. glass. Frames also supplied in other styles and sizes. Price: £3.



No. H. 75.—The fronts are 11 in. high, backs 22 in. high. The frame is 1 in. thick, and the lights $1\frac{1}{2}$ in., glazed with 15 oz. glass and painted two coats. 1-Light Frame, 4 ft. by 6 ft., £5 14s.; 2-Light Frame, 8 ft. by 6 ft., £8. 8s.; 3-Light Frame, 12 ft. by 6 ft. £11 4s. 6d.

HAVE the BEST of GARDEN FRAMES

Built to last—soundly constructed of selected and seasoned materials, of the latest designs—these Garden Frames are, like all products of Boulton & Paul, the best available at the lowest possible prices—consistent with sound workmanship. The great resources of this Century-old firm are fully utilised in making these frames, just as in the Conservatories and Horticultural Buildings of B. & P. Construction. As the stock is limited and the demand large, early orders are advised.

Enquiries invited for Greenhouses, Conservatories, Vinery Ranges, Peach Houses, Carnation Houses, Heating Systems, Garden Frames, etc., of all descriptions, with requisite accessories. Clients waited upon by appointment.

These are in Stock Ready for Immediate Delivery. Write for our List of Garden Frames & Small Greenhouses.

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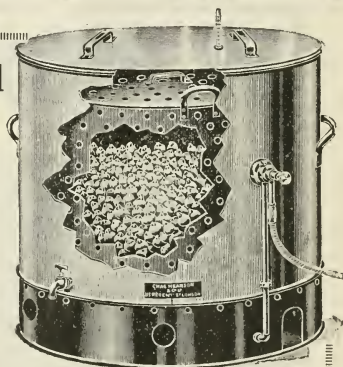
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The certainty, simplicity and economy of the "hot-water treatment" of bulb diseases have been conclusively proved. The Hearson's Thermostatic Bulb Treatment Bath makes it possible for the large or small bulb-grower to completely annihilate eelworm (*Tylenchus devastatrix*), Merodon, equestris, and other pests without the slightest injury to the bulbs themselves.

HEARSON'S Thermostatic Bulb Treatment Bath

maintains the required temperature automatically and with little supervision during the whole period of treatment: the bath as sent from the factory is complete, self-contained, and needs no accessories: the economy of the method is evidenced by the fact that cost of treating one ton of bulbs is approximately fifteen shillings.



Model No. 3 ($1\frac{1}{2}$ cwt. of Bulbs) Gas Heated.

The Hearson Thermostatic Bulb Treatment Baths are made for heating by Gas or Oil, to hold from a few pounds to $1\frac{1}{2}$ cwt. of bulbs, and at prices from £10 to £45.

THE CERTAIN CURE FOR BULB DISEASES

Descriptive Leaflet gladly sent on request to Dept. C.

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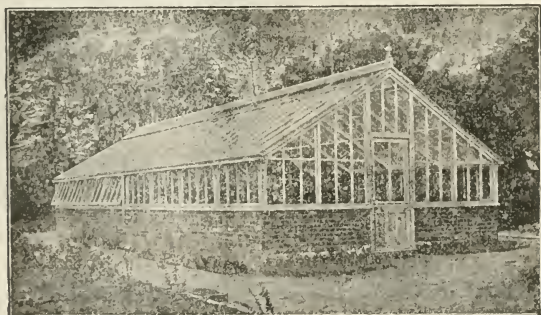
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Are Noted for their Vigorous Habit and Superior Constitution. Quality and Quantity of Flowers and Reasonable Prices. Our Speciality is the Selection and Crossbreeding of the very Finest Varieties of the different species, raising by the

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The most effective and non-poisonous preparations for the destruction of all plant pests

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"Hawlmarm" Wallflowers

FOR some years past we have advocated the sowing of Wallflower Seeds as an economical method of obtaining a fine show of deliciously fragrant flowers, of pleasing and varied colours.

They are easily raised, are equally suitable for small or large spaces, may be used for beds, borders or rockwork, and succeed well on walls where there is a minimum of root room. A gorgeous show can be made at the small expense of a few packets of seed.

Sow early—transplant in time—don't crowd—and pinch back leading shoots.

The following are the most distinct varieties, and embrace the most pleasing colours:—

Price per packet s. d.

Ellen Willmott.	Dwarf compact growing variety, producing flowers of largest size, and brightest ruby red colour	6d. and 1 0
Dickson's Pure Gold.	Fine dwarf compact habit of growth, flowers of rich golden yellow colour and large size	6d., 1 0
Dickson's Superb Dark Red.	Fine dwarf compact habit of growth, the best dark blood red	6d. and 1 0
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Collections of six varieties from the above	2/6; larger packets 5 0	
We can also supply Violet Blue, Golden Tom Thumb, Harbinger, Early Paris Market, White Dame, Ruby Gem		6d. and 1 0

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Royal Horticultural and Arboricultural Society of Ireland.

Spring Show at Stephen's Green.

Held on the 13th and 14th of April in Lord Iveagh's yard, the Spring Show of the above Society came as a welcome reminder that interest in horticulture survives strongly in spite of the troubled times we live in. A surprising number of exhibits was staged, and in many cases the quality was of the highest. The most noteworthy feature was the wonderful show of flowering trees and shrubs, and rarely have we seen more splendid masses of *Rhododendron arboreum*, *Drimys Winteri*, *Sophora tetraptera*, *Cytisus albus*, *Magnolia stellata*, *Erica arborea*, *Spiraea arguta*, flowering Cherries, *Habrothamnus*, Pyruses and many other things, than were staged in the competitive classes for these subjects. Alpines, which owing to their enormous numbers and ease of culture ought to be a feature no less wonderful than the trees and shrubs, were notoriously weak. In the class for 12 large pans there was only one entry, and the judges awarded a second prize on account of the lack of variety and the fact that the pans in several instances were by

Weedy Walks.

A GOOD arsenical weed-killer is the most effective and lasting preparation for keeping garden and other walks free from weeds, and of these weed-killers the most reliable is that made by Messrs. Mark Smith, Ltd. An advertisement (giving prices) will be found in this issue. The Irish Agent is Mr. D. M. Watson, Chemist, 61 South Great George's Street, Dublin, who specializes in weed-killers, spraying and fumigating materials, &c. It will be noticed that Mr. Watson recommends the use of Powder Weed Killer this season, in view of the fact that recent railway regulations regarding the transport of liquid weed-killer have added very considerably to the cost of the latter. The Powder Weed Killer is in every way as effective, and Mr. Watson vouches for the fact that a majority of his customers have for some years preferred the powder form.

no means full. In the class for five-inch pans two competitors were forward, and in this case the quality was better, the first prize lot containing such Alpines as *Morisia hypogæa*, *Gentiana verna*, *Stachys corsica*, *Primula frondosa*, &c. Nevertheless, considering the large number of beautiful, easily grown

THE "PATTISSON" HORSE BOOTS

ONCE TRIED, ALWAYS USED.

SIMPLEST! STRONGEST! MOST ECONOMICAL



Fig. 2. Welted Pattern.
Copper Riveted.

Fig. 1. Boot cannot Cramp because they do not touch the Hoof.



Fig. 1. Boot for Shod Horses.

Used for many years in the Royal and in thousands of the Principal Gardens in Great Britain and Ireland. Over 10,000 Sets used in the United Kingdom. HUNDREDS OF TESTIMONIALS. Soles of best English Sole Leather (Waterproofed), with Motor Tyre Rubber Studs, or Rubber Soles Strongly Recommended. Repairs.—The "PATTISSON" BOOTS can be resoled repeatedly equal to New Boots, but this can only be satisfactorily done by us, the Makers.

Entirely Metal to Metal Fastening. Perfect Ventilation.



Fig. 2. No-Welt Pattern

Silver Medals.—Royal Horticultural Society, 1904, 1914, Royal International Horticultural Exhibition, 1912.

H. PATTISSON & CO., 406 Greyhound Lane, STREATHAM, S.W.



For success in your Garden
USE

THOMSON'S MANURES

On the market for over 40 years, they still hold first place in the estimation of Horticulturists all over the world for QUALITY and RESULTS.

The direct results of many years' practical experience in gardening, they stand unrivalled at the present day for every description of Fruit bearing, Flowering and Foliage Plants, Vegetables, Lawns, etc., etc.

Vine, Plant and Vegetable Manure, 2 cwt., 36/-; 56 lbs., 19/-; 28 lbs., 10/6; 14 lbs., 6/-; 7 lbs., 3/6; tins, 1/0.

Special Top-Dressing Manure, 56 lbs., 19/-; 28 lbs., 10/6; 14 lbs., 6/-; 7 lbs., 3/6.

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PLANTS OUT OF 1½ INCH POTS

20 in	20 varieties	20/-
50 in	50 varieties	50/-
100 in	100 varieties	100/-

ALL FREE BY POST

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For the following Well Known and Highly
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THE CHEAPEST INSECTICIDE OF THE DAY

"NIQUAS"

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IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective insecticide for syringing and dipping. It destroys all insect pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/4; pint, 2/3; quart, 3/9; half-gallon, 6/-; gallon, 11/-; five gallons, 36/-; ten gallons, 62/6; twenty gallons, 120/-; 1 gallon sufficient for 80 gallons of water.

STANDEN'S MANURE

(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers

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Sold in Tins, 9d., 1/6, 3/9, 7/- each. Cheaper in Bulk.

For Fumigating in Greenhouses.

"LETHORION"

IMPROVED METAL CONES

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To destroy Insect Pests. The Candle attached to each Cone only needs lighting, and there is no further trouble. They are most efficacious.

No. 1. For frames and "lean-to's" up to 1,000 cubic feet. Price, 10d. each.

No. 2. For small greenhouses up to 1,500 cubic feet. Price, 1/3 each.

No. 3. For a well secured house of 2,000 to 2,500 cubic feet. Price, 1/9 each.

FOWLER'S LAWN SAND

This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Tins, 1/6, 3/9 and 7/- each; Bags, 4 cwt., 11/-; ½ cwt., 21/-
1 cwt., 39/-

ELLIOTT'S

"SUMMER CLOUD" SHADING

Registered Trade Mark No. 14,629.

(The only genuine original and Improved article)

For Greenhouses. A pleasant green shade is given to the glass. In packets, 1/6 for 100 feet of glass, and 4/- each for 300 feet.

Sole Manufacturers:

CORRY & Co., Limited

Merchants and Manufacturers of Nurserymen, Seedsman and Florists' Sundries and Tobacco Preparations Free of Duty, for Agricultural and Horticultural Purposes.

To be obtained from all dealers in Horticultural Sundries

plants flowering naturally at this season, it is somewhat astonishing to find so few represented. There should be no difficulty in having good pans of *Primula ciliata superba*, *P. marginata*, *Linda Pope*, *P. The General*, *P. pubescens alba*, *P. Forrestii*, *P. darwinia*, *P. Wardii*, *P. Marven*, *Androsace sarmentosa*, *A. arachnoidea*, *Engleria Sarifragas*, such as *S. porophylla*, *S. Grisebachii*, *S. Striburgii*; Anemones such as *appennina*, *ranunculoides*, *blanda*, and *vars.* of *A. nemorosa*, *Ethionemas* and *Corydalis thalictrifolia*, and, indeed, many other things.

Pot plants were not numerous, but some very fine specimens of herbaceous Calceolarias were on view and several good lots of *Freesias* were staged. The only table of bulbous plants staged contained some very fine specimens of hybrid *Hippeastrums*, together with *Daffodils*, *Tulips* and *Hyacinths*.

Mrs. Digges La Touche exhibited a table of flowering and foliage shrubs from Kilmacurragh containing many rare plants from that wonderful collection.

The Marquis of Headfort exhibited *Veronica Headfortii*, a free growing hybrid with a much branched inflorescence of purple blue flowers, giving promise of being an ornamental shrub when well developed.

Roses were shown by Mr. D'Olier, including well developed blooms of *Md. A. Chateau*, *Mrs. F. Mauley*, *Lyon Rose*, *Liberty*, &c.

Keen competition was shown in the collections of vegetables, and remarkably fine examples of *Leeks*, *Broccoli*, *Onions*, *Seakale*, *Cabbages*, *Lettuces*, *French Beans*, *Carrots*, *Potatoes*, *Mushrooms*, *Rhubarb*, &c., were on view.

Messrs. Robertson's Bulb Farm, Rush, staged a

"ACME" WEED KILLER

DESTROYS WEEDS, MOSS, etc., ON CARRIAGE DRIVES, GARDEN WALKS, ROADS, etc.

Awarded Gold Medal Anglo-American Exhibition, Bronze Medal Royal Horticultural Society.

POWDER WEED KILLER.

The same chemical compound as the liquid, and only needs the addition of water.

Dissolves Quickly in Cold Water.

SIZE OF TINS.			
No. 1, sufficient to make 12	galls.	2/-	postage 5d.
" 1, " " " 25	"	3/6	" 1/-
" 2, " " " 50	"	7/-	" 1/-
" 3, " " " 100	"	12/6	" 1/6
" 4, " " " 150	"	18/-	post free
Tins free.			

Lawn Sand.—Kills Daisies, etc., and fertilise the grass. No other manure necessary. 7 lb., 2/3; 56 lb., 18/- On rail Tunbridge.

Soluble Paraffin.—Mixes instantly with water and does not separate. 1 lb., 2/9, post free. 1 oz. sufficient for 1 gallon of water.

Arsenate of Lead (Paste) for destroying all leaf-eating insects, 3/- per lb., post free. 1 lb. sufficient for 20 gallons of water.

Extract of Quassia Insecticide.—1 gallon 5/-; Drum 3/9, allowed when returned; carriage paid on 5 gallons. Pint, 2/6, post free.

Compound Extract of Quassia Tobacco Insecticide.—Pint, 2/6; quart, 4/-, post free.

THE ACME CHEMICAL CO., Ltd.
TONBRIDGE, KENT.

Dublin Agents—Messrs. Drummond & Co., and Messrs. Hayes, Conyngham & Robinson, Ltd., Grafton Street.

Thomas McKenzie & Sons, Dublin

BEE HIVES

And all Appliances.

Lists on Application.

Foundations, Frames ::
Sections, Smokers, etc.

ALSO

FRUIT PRESERVING
BOTTLES

Chip Baskets, Punnets.
FRUIT NETTING

Lists on Application.

Thomas McKenzie & Sons
DUBLIN.



OUR C.D.B. HIVE.

magnificent lot of Darwin and Cottage Tulips which attracted much attention and which has probably never been excelled at any show; the award of a gold medal was well deserved. A similar award went to Messrs. Ramsay of Ballsbridge, who put up an artistic display of Roses and Carnations, beautifully arranged with flowering and foliage plants, the whole presenting a most pleasing effect.

Daffodils, usually a strong feature, were not so numerous this year, but many good varieties were shown by Mrs. Butler, of Priesttown House, Meath, who captured most of the prizes.

Show Fixtures, 1921.

July 23rd.—Terenure and Districts Horticultural Society. Entries close July 19. Hon. Sec., A. Phipps, Tymon Lodge, Tallaght, Co. Dublin.

Catalogues.

THE tremendous importance of Perpetual Flowering Carnations could not be better exemplified than in the sumptuous catalogues now issued by specialists in the culture of Carnations. Mr. C. Englemann, of Saffron Walden, a noted grower and raiser, has favoured us with a copy of his current issue, and we find it full of interest and information. A large number of varieties is offered and described, and the illustrations of blooms and plants are among the finest we have seen. The photographs of the huge quarter acre houses devoted to the cultivation of Carnations at Saffron Walden impress one with the great importance of the Carnation industry. Everyone who grows Carnations should have a copy of Mr. Englemann's Catalogue.

Opportunities for Young Farmers.

We would direct the attention of Irish farmers to the announcement in our advertising columns relative to courses in Agriculture to be provided by the Department during the year 1921-22. Farmers' sons should obtain particulars of these courses with a view to taking advantage of one or other of them. It will be seen that courses in Horticulture and Creamery Management are also provided for students who desire to gain instruction in these branches.

Practical training in farming is provided at the agricultural schools at Athenry, County Galway; Ballyhaise, County Cavan; Clonakilty, County Cork; and at the Albert Agricultural College, Glasnevin, Dublin. The Albert College also provides an advanced course of training in technical agriculture suitable for students who propose to enter the Agricultural Faculty of the Royal College of Science. Board and lodging are provided for students at all these schools.

Very valuable scholarships in connection with the Agricultural Faculty at the Royal College of Science are offered to young men between 18 and 30 years of age who desire to obtain a thorough knowledge of Technical Agriculture with a view to (a) becoming qualified for employment under the Department's programme of agricultural education, or (b) specialising in one or more branches of science as applied to Agriculture. Scholarships are offered also for candidates who wish to specialise in Horticulture or Creamery Management.

These scholarships are renewable, subject to satisfactory progress, for a total course of four years, and enable holders to obtain the most advanced technical training. The application forms in respect

Smith's "Perfect" Patent Powder

WEED KILLER

MARVELLOUS INVENTION

Nothing like it ever seen before. Soluble in Cold Water. All Tins Free. No Return Empties

MOST EFFECTIVE

TESTIMONY

ENNISCORTHY.

The Powder Weed Killer I got from you last month is the best I ever used.

GLENELLEN, MILTOWN

Your Weed Killer is the only one I ever tried that is any use. Yours never fails.—L. CREAGHE CREAGHE HOWARD.

		PRICES —	
1 Tin to make	25 gallons	£0 4 3	Post 1/3
4 Tins	100 "	0 17 0	" 2/6
8 Tins	200 "	1 14 0	Box 1/-
12 Tins	300 "	2 9 6	Box 1/6
20 Tins	500 "	3 17 0	Box 2/-
40 Tins	1000 "	7 0 0	Boxes 4/-

4 Tins when mixed with water will cover an area of about 400 sq. yards

ONE ADVANTAGE IN USING THE POWDER IS THAT THERE ARE NO EMPTIES TO RETURN
Twelve Tins sent Carriage Paid to any Station in Ireland.

SMITH'S LIQUID WEED KILLER

The Railway Companies have recently made very stringent regulations regarding the transport of Liquid Weed Killer and as these regulations add very much to the cost, consumers are strongly recommended to use the Powder Weed Killer, which is in every way equally effective, indeed for some years most users have preferred the powder form

Special quotations will be sent, if desired, for Liquid Weed Killer

IRISH AGENT—

NOTICE.—This Preparation is Poisonous.

Sole Proprietors, MARK SMITH, Ltd.

D. M. WATSON, M.P.S.,

Horticultural Chemist

61 South Great George's Street

DUBLIN

Insecticides, Fungicides, Fumigants, Spraying Machines, &c.

Telephone, 1971

of the scholarships must be returned to the Department, duly completed, by the 1st June.

The Pattisson Horse Boots.

THE Pattisson Horse Boots, manufactured by Messrs. H. Pattisson & Co., Streatham, are well known wherever lawns and grounds have to be mown with horse machines. There is, as a matter of fact, no other boot to equal them for durability, ease of adjustment and comfort to the horse. They are in constant use during the summer months in all the leading parks and gardens in Great Britain and Ireland.

Pattisson's 1921 Catalogue is now before us, and we are reminded that, in addition to horse boots of various patterns, the firm also stocks an enormous variety of other park and garden accessories, indispensable where lawns, greens, and grounds generally have to be kept at the pitch of perfection the whole

GOLD MEDAL PERENNIAL PHLOX: 12 grand new varieties, 20/-; 12 very fine new varieties, 15/-; 12 very best older varieties, 10/- **NEW MICHAELMAS DAISIES:** 12 grand new varieties, 20/-; 12 very fine new varieties, 15/-; 12 very best older varieties, 10/- These are good plants, and delivered, packing and carriage free, for cash with order. **H. J. JONES,** Ryecroft Nurseries, Lewis-ham, London, S.E. 13.

season. Among other things they offer water sprinklers in various designs, a special brand of guaranteed rubber hose, Knapsack Sprayers, Water Barrows, Carts and Pumps, Manure Distributors, Rollers, Boot Scrapers, Garden Barrows, Turfing Irons, and, in fact, every up-to-date tool and implement required for the upkeep of gardens and grounds. The firm has a well deserved reputation for the high quality of their goods, and we recommend our readers to send for a catalogue.

WEED KILLER

LITTLE'S

LIQUID AND POWDER.

In Tins and Drums—
½, 1, 2, 5, 10 gallon.

In Tins and Cases—
To make 12, 25, 100
to 1,000 gallons.

LITTLE'S FRUIT TREE WASHES.

BOOKLET ON APPLICATION.

MORRIS, LITTLE & SON, LTD.,
DONCASTER.

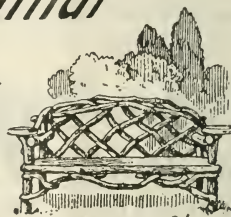
The Garden beautiful BUY RUSTIC WORK

DIRECT FROM THE MAKER AND—
SAVE MIDDLE PROFIT.

WE MAKE ALL KINDS AT ALL
PRICES FROM ANY DESIGN.

Send for Catalogue.

The Devonshire Rustic Oak
Manufacturing Co.,
PLAYFORD MILLS, BARNSTAPLE, DEVON.



SEATS FROM 12/-
EACH

To SEED MERCHANTS

IF there is one kind of advertising which lends itself more than any other to artistic result-producing illustration it is the advertising of Seeds.

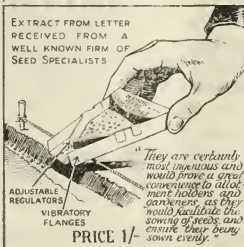
The more you illustrate the better the results. We produce very beautiful Line, Tone, and Colour blocks for this purpose.

IRISH PHOTO-
-ENGRAVING CO. LTD.
50 Middle Abbey St. Dublin.

EVERYMAN'S SEED SOWER

ECONOMISES THE SEED AND
SAVES THINNING OUT

EXTRACT FROM LETTER
RECEIVED FROM A
WELL KNOWN FIRM OF
SEED SPECIALISTS



PRICE 1/-

FROM LEADING
Ironmongers
Horticultural
Sundriesmen
Stores, &c.

If your dealer is out of
stock send 1/2 for Sample
post free to

HOUSE & GARDEN
SUNDRIES CO.

Dept. M—
10 EASTCHEAP, E.C.3

PHONE,
DUBLIN
4132.

Miscellaneous Section.

DEPARTMENT OF AGRICULTURE AND TECHNICAL INSTRUCTION FOR IRELAND.

TRAINING IN—

Agriculture, Horticulture and
Creamery Management ::

Young men who desire to attend any of the courses in the above-mentioned subjects, to be provided by the Department during the year 1921-22, should apply without delay for prospectuses, &c., to

THE SECRETARY, Department of
Agriculture and Technical Instruction
for Ireland. Upper Merrion St., Dublin

Envelopes should be marked in corner—
"Agricultural Branch (Division C.)"

DON'T STRIKE BUT USE
Tabor's World's Famous **FERTILISER**

Gets right there, and makes everything grow to perfection. Clean to handle. Sold everywhere for Horticultural uses in 2/6, 4/6, 8/-, 10/- size tins, larger quantities reduced prices. Guaranteed Highest Analysis.

Ask Florists, Seedsmen, also Wholesalers & other stores, or write:
B. TABOR, Billingsgate, LONDON. (Agents wanted everywhere)

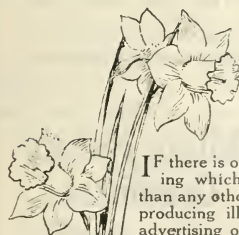
SEND FOR PRICE LIST AND SAMPLE

For GARDENS & FIELDS

Best quality Oak Fencing Stakes, also Oak Scantlings,
any size you may require, put on rail immediately

Your enquiries will oblige

Saml. Myers & Son, Birr, King's Co.



**To SEED
MERCHANTS**

IF there is one kind of advertising which lends itself more than any other to artistic result-producing illustration it is the advertising of Seeds.

The more you illustrate the better the results. We produce very beautiful Line, Tone, and Colour blocks for this purpose.

**IRISH PHOTO-
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50 Middle Abbey St. Dublin.

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RICHARD C. McM. SMYTH, F.R.H.S.

DESIGNS & LAYS OUT LAWNS & PLEASURE
GROUNDS, CONSTRUCTS PERGOLAS & PLANTS
WATER, ROCK, FLOWER AND BOG GARDENS
MOUNT HENRY, DALKEY, CO. DUBLIN

WEED KILLER

LITTLE'S

LIQUID AND POWDER.

In Tins and Drums—
½, 1, 2, 5, 10 gallon.

In Tins and Cases—
To make 12, 25, 100
to 1,000 gallons.

LITTLE'S FRUIT TREE WASHES.
BOOKLET ON APPLICATION.

**MORRIS, LITTLE & SON, LTD.,
DONCASTER.**

WELLS' CATALOGUE
OF

CHRYSANTHEMUMS
NOW READY

Post free on application

W. WELLS & COMPANY
MERSTHAM, SURREY

THEY ARE THE BEST AND CHEAPEST
ALL HAND MADE



Artistic Fern Pans and Bulb Bowls

State Quantities and Sizes required, and
have "Carriage Paid" quotation, or
write for Price List—FREE

RICHARD SANKEY & SON, Ltd.
Royal Potteries, Bulwell, Nottingham



AUTO-SHREDS

IS CERTAIN DEATH to leaf-mining Maggots, White Fly and all Pests infesting Plants under Glass. In boxes to fumigate 1,000 cubic feet, 1/-; 2,500 cubic feet, 1/9; 10,000 cubic feet (for ordinary Plants), 4/6; 10,000 cubic feet (for tender foliaged Plants), 6/- each. Obtained of all principal Seedsmen and Florists. Makers:—

W. Darlington & Sons, Ltd.
HACKNEY, LONDON, E.8

BURNS ON THE GROUND
NO APPARATUS REQUIRED

James, 1921

HORTICULTURAL GLASS, PAINTS, &c.

- GLASS** . . . Cut to dimensions, packed and delivered at your railway station. Also stocked in the regular box sizes
- PAINT** . . . "BROMAS" for general household and estate purposes
 "VALENTINE" for hay barns, &c., doubles the life of galvanized iron.
 "PETREX" for conservatories, does not flake off.
- "DEAUTITE"** . Plastic Repair Compound for repairing leaky roofs and cracked glass, also for General Repair Work.
- BOILERS** . . . And heating plants, newest Types. Please ask for lists.
- GREENHOUSES** And GARDEN FRAMES.

Also TIMBER, SLATES, BRICKS, IRONMONGERY, and every Building Requisite

BROOKS THOMAS & CO.
 LTD.

BUILDERS' PROVIDERS, Sackville Place,

Dublin

Plants must be Fed To Horticulturists

The two main elements of success in gardening are proper tillage and
 :: intelligent Fertilizing ::

Always follow up your Autumn and Winter manuring with a top dressing in the Spring and early Summer of

Nitrate of Soda

Any of the
 Leading
 Seedsmen
 and Dealers
 will supply
 it.

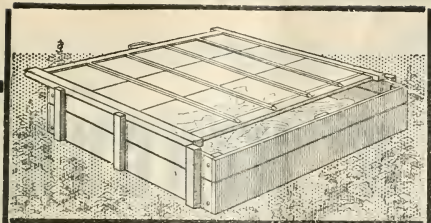
It is easily applied—quick in its action—and a necessary ingredient : for the well-being of the plant :

SEND for the Pamphlets entitled
 "Successful Gardens"
 for Every Amateur.
 and "The Manuring of Orchards and Fruit Trees," supplied gratis and post free by

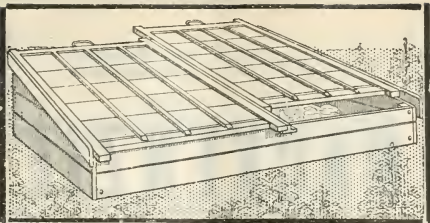
THE
**Chilean Nitrate
 Committee**
 25 Chichester Street
 BELFAST

OR

Friars Buildings, New
 Broad St., LONDON,
 E.C.



No. 80.—This is an Ideal Frame for Allotment Holders and Small-holders. Size, 4 ft. 9 in. by 3 ft. 9 in. Sides, 9 in. high. Painted two coats and glazed with 15 oz. glass. Frames also supplied in other styles and sizes. Price £3.



No. H. 75.—The fronts are 11 in. high, backs 22 in. high. The frame is 1 in. thick, and the lights 1½ in., glazed with 15 oz. glass, and painted two coats. 1-light frame, 4 ft. by 6 ft. 25 14s.; 2-light frame, 8 ft. by 6 ft. 23 8s.; 3-light frame, 12 ft. by 6 ft. 21 4s. 6d.

B. & P. Frames—Best in the long run

It is not now—but in a few years time that the sound construction of a B. & P. Horticultural Frame is fully appreciated. Every Horticultural unit made at our Norwich Works is produced by skilled workmen from selected seasoned material—It is our aim to build frames at moderate prices that will outlast those of competitors. —The generous appreciation afforded our Horticultural frames and appliances is evidence that our aim is fulfilled.

Enquiries invited for Green-houses, Conservatories, Vinery Ranges, Peach Houses, Carnation Houses, Heating Systems, Garden Frames, etc., of all descriptions, with requisite accessories.

These are in Stock Ready for Immediate Delivery. Write for our List of Garden Frames & Small Greenhouses.

Telephone
851 Norwich



Boulton & Paul Ltd.

HEAD OFFICES & WORKS: NORWICH

London Office: 135-7, QUEEN VICTORIA ST.

Telegrams
"BOULTON
NORWICH"

Antirrhinums (Tall)

Bright Rose (rose).	Fire King (orange scarlet).
Crescia (scarlet).	Moonlight (primrose).
Defiance (red).	Queen Victoria (white).

1/- dozen, 7/6 100.

Intermediate.

Bonfire (vivid Scarlet).	Niobe (crimson).
Black Prince (blood red).	Orange Prince (orange).
Buff Queen (amber).	Pink Beauty (soft pink).
Golden Queen (yellow).	Queen of the North (White).

1/- doz., 7/8 100.

Tom Thumb.

White Queen, Crimson King. Mixed, all colours.
1/- doz., 7/6 100.

Sunbeam Poppies. These are glorified Iceland Poppies, large flowers on strong stems.
2/- doz., 25 for 3/6.

Annuals for Summer bedding, 100 assorted, 5/-
Postage on all orders, 9d.

A large assortment of perennials, bulbs, etc., in season. For present planting, Phlox, Michaelmas Daisies, Erigerons, Helianthus, all at 5/6 doz. Moon Daisies (giants), 5/- doz.

**REV. C. BARNES, F.R.H.S., SCOTTON
WORKSOP.**



Hardy Rock Plants

give to every garden, no matter how tiny, the touch

which made our grandmothers' gardens so lovable. Only Flower lovers know how to appreciate the sweet blooms of an old-fashioned garden. The collections BEES offer below will make your garden more interesting and more charming. Try them, or write for Bees' catalogues, free on request.

Bees' "UNCLE REMUS" Collection of 12 Rock Plants.
10/- Carriage Paid.

(12 first class hardy plants to bloom in mid and later summer.)

Beesian Primrose	Innocence Sunrose
Rosy Rockfoil	White Star Bellflower
Creeping Gromwell	Crimson Thyme
Rose Queen Sunrose	Yellow Rockfoil
Florentine Rockrose	Greek Milfoil
Balearic Sandwort	Carpathian Bellflower

Bees' "RAVENSWOOD" Collection of Rockery Plants.
10/- Carriage Paid.

(12 first-class hardy plants to bloom in the early summer.)

Warley Candytuft	Evergreen Candytuft
Fritchard's Aubrieta	Scarlet Rockfoil
Little Bee Rockfoil	Yellow Graecian Violet
Gracian Violet	Golden Alyssum
Toothed Primrose	Pink Rockfoil
Daisy Everlasting	Julia's Primrose

Bees Ltd
Liverpool.

BY SPECIAL
APPOINTMENT



TO HIS MAJESTY
THE KING

MACKENZIE & MONCUR

LIMITED

Hothouse Builders and Heating Engineers

ELECTRICAL ENGINEERS AND IRONFOUNDERS

Registered Office and Works,
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BALCARRES STREET, EDINBURGH
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HOTHOUSES, HEATING, ELECTRIC LIGHTING, IRON FOUNDRY

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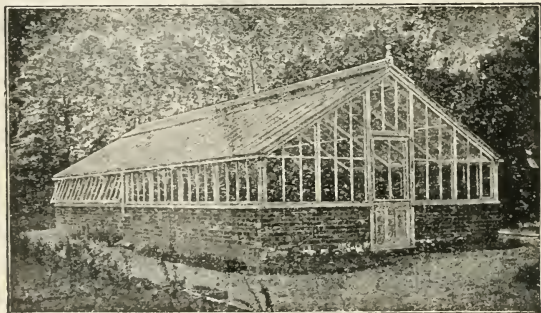
Estimates and Plans Supplied

W. RICHARDSON & Co.

SPECIALISTS IN THE
MANUFACTURE OF ALL KINDS
OF

HORTICULTURAL
BUILDINGS,
ALSO

HEATING ENGINEERS



Plans and Estimates prepared free
of cost

Large Catalogue of photographic
views of Horticultural Buildings
free on application

DARLINGTON

(LONDON OFFICE: Albert Mansions, 92 Victoria St., S.W.1)

Charlesworth's Orchids

Are Noted for their Vigorous Habit and Superior Constitution. Quality and Quantity of Flowers and Reasonable Prices. Our Speciality is the Selection and Crossbreeding of the very Finest Varieties of the different species, raising by the

PURE CULTURE SYSTEM

To Produce the ever popular easily grown
COOL, INTERMEDIATE & WARM HOUSE HYBRIDS

Special quotations given for large or small quantities

ALSO

Osmunda and other Fibres

OF THE FINEST QUALITY

"Phytophiline" & "Vitiphiline" Insecticides

The most effective and non-poisonous preparations for the destruction of all plant pests

CHARLESWORTH & CO., Haywards Heath, SUSSEX

DICKSON'S SUPERB

"Hawlmarm" Wallflowers

FOR some years past we have advocated the sowing of Wallflower Seeds as an economical method of obtaining a fine show of deliciously fragrant flowers, of pleasing and varied colours.

They are easily raised, are equally suitable for small or large spaces, may be used for beds, borders or rockwork, and succeed well on walls where there is a minimum of root room. A gorgeous show can be made at the small expense of a few packets of seed.

Sow early—transplant in time—don't crowd—and pinch back leading shoots.

The following are the most distinct varieties, and embrace the most pleasing colours:—

	Price per packet	s.	d.
Ellen Willmott. Dwarf compact growing variety, producing flowers of largest size, and brightest ruby red colour	6d and 1 0		
Dickson's Pure Gold. Fine dwarf compact habit of growth, flowers of rich golden yellow colour and large size	6d., 1 0		
Dickson's Superb Dark Red. Fine dwarf compact habit of growth, the best dark blood red	6d and 1 0		
Vulcan. A grand variety of very dwarf habit, bearing immense flowers of the richest velvety crimson colour	6d. and 1 0		
Golden Monarch. (New). A splendid companion to "Vulcan"; in excellent contrast, being of a bright rich golden yellow colour, and dwarf compact growth	6d and 1 0		
Eastern Queen. Flowers of a pleasing shade of bright chamois, changing to salmon red. Dwarf habit of growth	6d. and 1 0		
Primrose Dame. A pleasing primrose colour, dwarf habit	6d. and 1 0		
Dickson's Superb Mixed. A splendid selection, embracing a great variety of colours	6d. and 1 0		
Collection of six varieties from the above	2/6; larger packets 5 0		
We can also supply Violet Blue, Golden Tom Thumb, Harbinger, Early Paris Market, White Dame, Ruby Gem	6d. and 1 0		

SEE OUR ILLUSTRATED CATALOGUE, POST FREE ON APPLICATION

ALEX. DICKSON & SONS, Limited
"HAWLMARK"—61 DAWSON STREET :: :: DUBLIN

Royal Horticultural and Arboricultural Society of Ireland.

The monthly meeting of the Council was held at the offices, 5 Molesworth Street, Dublin, on the 8th ult., Mr. A. V. Montgomery presiding. Matters in connection with the Spring Show were dealt with, and the following were elected members of the Society, viz:—Lady Cootes, Deer Park, Moninath; R. K. A. Kennedy, Esq., Kilmecurragh, Rathdrum; Mr. J. Dowling, St. Stephen's Green Park; Mr. Charles Faulkner, Lisnavagh Gardens, Rathvilly; The Countess of Fingall, Killeen Castle, Meath; Mr. H. Gordon, Farnleigh Gardens, Castleknock; Lady Mabel Hamilton Stubber, Moyne, Dnarrow, Queen's Co.; Mrs. Browne-Clayton, Browne's Hill, Carlow; Mrs. Stanley, Carleton, Killiney; Mr. Ed. Coyle, Lyons Gardens, Hazelhatch; Mrs. Murphy, 10 Clyde Road, Dublin; Mr. H. Slator, Royal Hospital Gardens, Kilmunham; Mr. J. Rawlins, Viceregal Gardens, Phoenix Park; Mr. H. Cousins, Thornfield Gardens, Donnybrook; Mr. J. V. Arnold, Masonic Schools, Clonskeagh; Robert Healy, Esq., Kill, Tullow, Co. Carlow; Mrs. Charles McKenna, Killeen Terrace, Malahide; Mrs. A. Mandeville McKinnery,

Dalguise, Monkstown; James G. Franks, Esq., Rosereth, Malahide; J. G. Coburn, Esq., Tenebo, Sutton, Co. Dublin; Mr. P. Cullen, Sutton House Gardens, Sutton, Co. Dublin; W. H. Lamb, Esq., Nisetra, Inchicore; and the following were elected Life Members:—The Hon. Cecil Baring, Lambay, Rush, Co. Dublin; D. Pack-Beresford, Esq., D.L., Fench House, Baginbinstown; and Frank B. Browne, Esq., Eastwood, Baginbinstown.

The Rules of Golf.

The Royal Insurance Company has very kindly sent us a copy of their new edition of the above. The new edition is approved by the Royal and Ancient Golf Club of St. Andrews, and embodies the latest changes in the Rules.

The Company very kindly says:—"... so far as our stock will permit we shall be happy to forward a copy to any of your readers who care to apply to the Company's Head Offices, North John Street, Liverpool; Lombard Street, London, or any of its branches." The booklet is excellently produced and can be slipped into the waistcoat pocket ready for reference at any time.

THE "PATTISSON" HORSE BOOTS

ONCE TRIED, ALWAYS USED.

SIMPLEST! STRONGEST! MOST ECONOMICAL

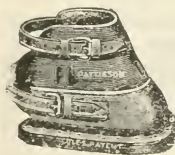


Fig. 2. Wellet Pattern.
Copper Riveted.

Fig. 1. Boot cannot Cramp because they do not touch the Hoof.



Fig. 1. Boot for Shed Horses.

Used for many years in the Royal and in thousands of the Principal Gardens in Great Britain and Ireland. Over 10,000 Sets used in the United Kingdom. HUNDREDS OF TESTIMONIALS. Soles of best English Sole Leather (Waterproofed), with Motor Tyre Rubber Strips, or Rubber Soles Strongly Recommended. Repairs.—The "PATTISSON" BOOTS can be resoled repeatedly equal to New Boots, but this can only be satisfactorily done by us, the Makers.

Entirely Metal to Metal Fastening. Perfect Ventilation.



Fig. 2. No-Welt Pattern

Silver Medals.—Royal Horticultural Society,

1904, 1914, Royal International Horticultural Exhibition, 1912.

H. PATTISSON & CO., 406 Greyhound Lane, STREATHAM, S.W.



For success in your Garden

USE

THOMSON'S MANURES

On the market for over 40 years, they still hold first place in the estimation of Horticulturists all over the world for QUALITY and RESULTS.

The direct results of many years' practical experience in gardening, they stand unrivalled at the present day for every description of Fruit bearing, Flowering and Foliage Plants, Vegetables, Lawns, etc., etc.

Vine, Plant and Vegetable Manure, 1 cwt., 38/-; 56 lbs., 19/-; 28 lbs., 10/6; 14 lbs., 6/-; 7 lbs., 3/6; tins, 1/6.

Special Top-Dressing Manure, 56 lbs., 19/-; 28 lbs., 10/6; 14 lbs., 6/-; 7 lbs., 3/6.

WRITE FOR OUR BOOKLET—POST FREE ON REQUEST.

SOLD BY NURSERYMEN AND SEEDSMEN EVERYWHERE.

Sole Makers: WM. THOMSON & SONS, LTD., CLOVENFORDS, SCOTLAND.

BENTLEY'S SPECIALITIES

WEED DESTROYERS DAISY KILLER

(Lawn Sand)

INSECTICIDES

FUNGICIDES

FUMIGANTS

FERTILISERS

Catalogue on Application

SOLE MANUFACTURERS

Joseph Bentley, Limited

**CHEMICAL WORKS
Barrow-on-Humber, HULL**

CARNATIONS

Why pay high railway rates?

TRY MY

Parcel Post Collections

PLANTS OUT OF 1½ INCH POTS

20 in 20 varieties 20/-

50 in 50 varieties 50/-

100 in 100 varieties 100/-

ALL FREE BY POST

C. ENGLEMAN

Carnation Grower

Saffron Walden, ENGLAND

Ask Your Nurseryman or Seedsman

For the following Well Known and Highly
Efficient Horticultural Preparations.

THE CHEAPEST INSECTICIDE OF THE DAY "NIQUAS"

(NON-POISONOUS)

IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for syringing and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/4; pint, 2/3; quart, 3/9; half-gallon, 6/-; gallon, 11/-; five gallons, 36/-; ten gallons, 62/6; twenty gallons, 120/-; 1 gallon sufficient for 50 gallons of water.

STANDEN'S MANURE

(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers
Analysis on Application

Sold in Tins, 9d., 1/6, 3/9, 7/- each. Cheaper in Bulk.

For Fumigating in Greenhouses.

"LETHORION"

IMPROVED METAL CONES

Registered No. 62,597

To destroy Insect Pests. The Candle attached to each Cone only needs lighting, and there is no further trouble. They are most efficacious.

No. 1. For frames and "lean-to's" up to 1,000 cubic feet. Price, 10d. each.

No. 2. For small greenhouses up to 1,500 cubic feet. Price, 1/3 each.

No. 3. For a well secured house of 2,000 to 2,500 cubic feet. Price, 1/9 each.

FOWLER'S LAWN SAND

This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one tin is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Tins, 1/6, 3/9 and 7/- each; Bags, 1 cwt., 11/-; 1/2 cwt., 21/-; 1 cwt., 39/-

ELLIOTT'S

"SUMMER CLOUD" SHADING

Registered Trade Mark No. 14,829.

(The only genuine original and improved article)

For Greenhouses. A pleasant green shade is given to the glass. In packets, 1/6 for 100 feet of glass, and 4/- each for 300 feet.

Sole Manufacturers:

CORRY & Co., Limited

Merchants and Manufacturers of Nurserymen, Seedsman and Florists Sundries and Tobacco Preparations Free of Duty, for Agricultural and Horticultural Purposes.

To be obtained from all dealers in Horticultural Sundries

Royal Horticultural Society of Ireland.

The monthly meeting of the Council was held at the offices, 5 Molesworth Street, Dublin, on 13th ult. Mr. H. P. Goodbody presiding. Accounts in connection with the Spring Show, including the Prize List, were passed and ordered for payment, and preliminary matters relative to the July Show were dealt with. A vote of thanks was accorded to Messrs. Pennick & Co., Delgany Nurseries, Greystones, Co. Wicklow, for choice specimens of new Dutch hybrid Rhododendrons exhibited at the meeting. The following new members were elected, a cordial vote of thanks and appreciation being passed to the proposers for their help and interest in the matter:—Mrs. A. W. Thompson, 18 Sandymount Avenue, Dublin; Lieut.-Col. Marsden, R.F.A., Killeany, Mountrath, Queen's Co.; Mrs. Hayes, Edmondstown Park, Rathfarnham; Wm. Hillock, 1 Patrick Square, Wexford; P. Cullen, Summer Hill, Wicklow; Edmund Trouton, The Grange, Stillorgan; Miss E. Carton, Brooklawn, Kimmage, Co. Dublin; Ed. Rutherford, Farnham Castle Gardens, Cavan; Mrs. R. E. Osborne, 50 Lower Leeson Street, Dublin; Mrs. Thompson, Rathnally, Trim, Co. Meath; Chas. Chaytor, 13 Molesworth Street, Dublin; J. Dunne, Central Hotel, Clonmel; J. MacNamara, 12 Church Street, Cavan; Miss Mary Stark, 5 Clyde Road, Dublin; Hon. Mrs. Franklin, Glenalla, Ray, Letterkenny; Lady Wright, 22 Fitzwilliam Square, Dublin; T. Byrne, Baskin Hill Gardens, Coolock, Co. Dublin; R. G. Nixon, Castleforbes, Newtownforbes; Miss A. E. Dennis, Eadestown Lodge, Baltinglass; Mrs. Wilmot Mitchell, Ballynure, Grange Con; Alex. Conan, Monte Alverno, Dalkey; H. M. Dockrell, Dawson Court, Blackrock; D. Delaney, Wykham Gardens, Dundrum; J. E. E. Hilton, The Laurels, Kilmahainham; Professor Sidney Young, 13 Clyde Road, Dublin; Chas. E. Figgis, Inglefield, Greystones; S. C. Do, 27 Beadon Row, Calcutta; Mrs. Kennedy Cahill, 80 Merrion Square, Dublin; Mrs. Sidney Ball, 21 Longford Terrace, Dolphin's Barn, Dublin; Mrs. Wanless O'Gowan, 32 Leeson Park, Dublin; Miss Gertrude M. Goodbody, Inchmore, Clara, King's Co.

Hoeing.

Hoeing can do a vast amount of good for three reasons: (1) Because it lessens evaporation, and so lessens watering; (2) because it aerates the surface soil; and (3) because it keeps down weeds. It is not necessary to enlarge upon any one of these facts, but I take the opportunity of pointing out the great value of regular hoeing. Some amateurs think "Oh, it is waste of time," but it is not; no time is wasted when we are hoeing, and the plants greatly benefit.

If the hoe can be run regularly every fortnight down the rows of annuals or between biennials from April onwards; along the borders of *Chrysanthemums* and *Dahlias*, and through the perennial border, it is not too often, but the use of the rake subsequently is not needed if the hoeing be neatly done, if there are weeds to remove. Always work backwards with the hoe, and if you can manage it, hoe several inches deep, except when you are close to the roots of the plants.

A good opportunity to hoe is when the soil is just starting to dry after a shower. It should run over the blade of the hoe very well then. But do not wait for a shower or it will never come. Hoeing should always have been done recently before watering, as then the water soaks in.

I have so far spoken only of the Dutch or "push" hoe. There are, of course, others, such as the draw hoe, Canterbury hoe, &c., but though these be taken on their merits for the purposes to which they are specially adapted, they cannot, to my mind, ever be considered nearly so generally useful as the Dutch hoe. F.

Fruit Preserving Bottles



Economise sugar and
use up all small fruit

Bottles and Fittings
Large Stocks.

Chip Baskets

Punnets :: ::

Fruit Trays, &c.

Thos. McKenzie & Sons, Ltd
Great Brunswick St., Dublin

"ACME" WEED KILLER

**DESTROYS WEEDS, MOSS, etc., ON CARRIAGE
DRIVES, GARDEN WALKS, ROADS, etc.**

Awarded Gold Medal Anglo-American Exhibition,
Bronze Medal Royal Horticultural Society.

POWDER WEED KILLER.

The same chemical compound as the liquid, and only needs
the addition of water.

Dissolves Quickly in Cold Water.

SIZE OF TINS.

No.	1.	2.	3.	4.
sufficient to make	12	25	50	100
galls.,	2 1/2	5	10	20
postage	9d.	1/-	1/-	1/6
100	12/6	15/-	18/-	post free

Tins free.

Lawn Sand.—Kills Daisies, etc., and fertilises the grass. No other manure necessary. 7 lbs., 2/3; 56 lb., 16/- On rail 14s. 6d.

Soluble Paraffin.—Mixes instantly with water and does not separate. 1 lb., 2s. post free. 1 oz. sufficient for 1 gallon of water.

Arsenate of Lead (Paste).—For destroying all leaf-eating insects, 3s. per lb., post free. 1 lb. sufficient for 20 gallons of water.

Extract of Quassia Insecticide.—1 gallon 5s.; Drum 3s. allowed when returned; carriage paid on 5 gallons. Pint, 2s. 6d. post free.

Compound Extract of Quassia Tobacco Insecticide.—Pint, 2s. 6d.; quart, 4s., post free.

THE ACME CHEMICAL CO., Ltd.
TONBRIDGE, KENT.

Dublin Agents—Messrs. Drummond & Co., and Messrs. Hayes, Conyngham & Robinson, Ltd., Grafton Street.

Review.

Village and Cottage Gardening.

THE issue of a tenth edition of this little book is some guarantee that previous editions have been found of service to the very numerous class for which it is intended.

The opening pages are devoted to a calendar of operations month by month for the whole year. Thereafter the Reviser, Mr. Geo. M. Taylor, proceeds to give practical directions for the manifold operations necessary to get the most out of the average villa or cottage garden. Fruits, flowers and vegetables are dealt with in turn, while consideration is given to the fact that many people enter into the possession of small gardens completely ignorant of the very rudiments of gardening; hence, rather full and explicit directions are given for simple operations which may appear superfluous to the more experienced. A list of prices of garden tools, as well as of plants, is useful in giving an idea of the cost of beginning to work and stock a garden. On the whole, the practical directions are sound, and can be followed safely with modifications such as are indicated.

The services of an experienced proof reader would have eliminated numerous unfortunate mistakes in spelling and would have much improved the grammar. In the chapter on Hardy Flowers capitals are used in a most flagrant way for specific names and in some cases, as in *Spiraea Ulmaria*, where a capital would be correct, a small letter is used. This

sort of thing does not reflect credit on those who feel qualified to write books on gardening.

Price 1s. 6d. net.

Opportunities for Young Gardeners

ATTENTION is directed to the announcement in our advertisement pages regarding courses of instruction provided at the School of Horticulture, Albert Agricultural College, Glasnevin.

Two courses are provided, viz.: (1) for Horticultural Instructors in Training, and (2) Horticultural Apprenticeships. Young gardeners desirous of obtaining a first class training in horticulture should send for particulars regarding these courses for the Session 1921-22. Application to attend the examination for admission as an Instructor in Training must be forwarded not later than the 16th July, 1921; and for admission as a Horticulture Apprentice not later than 13th August, 1921.

We strongly recommend young gardeners to send for the Prospectus and Application Form at once.

Royal Horticultural Society.

THE Royal Horticultural Society proposes to carry out a trial of Antirrhinums for spring flowering in pots with the object of ascertaining the varieties best for this purpose, and of drawing greater attention to the value of these plants for greenhouse decoration. The Director of Wisley will be glad to receive seeds of varieties for trial, which should be

Smith's "Perfect"
Patent Powder

WEED KILLER

MARVELLOUS INVENTION

Nothing like it ever seen before. Soluble in Cold Water. All Tins Free. No Return Empties

MOST EFFECTIVE

TESTIMONY

ENNISCORTHY.

The Powder Weed Killer I got from you last month is the best I ever used.

GLENELLEN, MILTOWN

Your Weed Killer is the only one I ever tried that is any use. Yours never fails.—L. CREAGHE CREAGHE HOWARD.

		PRICES —	
1 Tin to make	25 gallons	£0 4 3	Post 1/3
4 Tins	100 "	0 17 0	" 2/6
8 Tins	200 "	1 14 0	Box 1/-
12 Tins	300 "	2 9 6	Box 1/6
20 Tins	500 "	3 17 0	Box 2/-
40 Tins	1000 "	7 0 0	Boxes 4/-

4 Tins when mixed with water will cover an area of about 400 sq. yards
ONE ADVANTAGE IN USING THE POWDER IS THAT THERE ARE NO EMPTIES TO RETURN
Twelve Tins sent Carriage Paid to any Station in Ireland.

SMITH'S LIQUID WEED KILLER

The Railway Companies have recently made very stringent regulations regarding the transport of Liquid Weed Killer and as these regulations add very much to the cost, consumers are strongly recommended to use the Powder Weed Killer, which is in every way equally effective, indeed for some years most users have preferred the powder form

Special quotations will be sent, if desired, for Liquid Weed Killer

IRISH AGENT—

NOTICE.—This Preparation is Poisonous.

Sole Proprietors, MARK SMITH, Ltd.

D. M. WATSON, M.P.S.,

Horticultural Chemist 61 South Great George's Street

Telephone, 1971

DUBLIN

Insecticides, Fungicides, Fumigants, Spraying Machines, &c.

GOOD BEDDING PLANTS

6d. A LOT.

20 Asters, Gt. Comet, Mixed	6d.	12 Nemesis Suttoni, mixed	6d.
20 Do., Ostrich Plume	6d.	12 Do., dwarf hybrids	6d.
10 Do., Dwarf Perfection	6d.	12 Do., Blue Gem	6d.
20 White Asters	6d.	3 Salvia Splendens, scarlet	6d.
15 Stocks, Ten-week, Mixed	6d.	6 Thalictrum, Hardy	6d.
10 Antirrhinums, Golden	6d.	6 Malenhair	6d.
Queen	6d.	15 Pansies, giant yellow	6d.
10 Do., White Queen	6d.	15 Do., Peacock	6d.
10 Do., Cottage Maid, pluk	6d.	15 Do., choice mixed	6d.
10 Do., Scarlet King	6d.		
10 Do., pink and terra-	6d.		
cotta shades	6d.	20 Forget-me-nots	6d.
10 Do., Orange Queen	6d.	25 Giant Double Daisies	6d.
10 Do., Black Prince	6d.	6 Lupinus, choice perennial	6d.
10 Do., choice mixed	6d.	hybrids	6d.
		15 Nasturtium, dwarf	6d.

All above Antirrhinums semi-dwarf varieties.

10 Antirrhinums, tall, mixed	6d.	15 Do., Empress of India	6d.
10 Do., Tom Thumb,	6d.	15 Do., variegated foliage	6d.
mixed	6d.	15 Do., tall mixed	6d.
3 Calceolaria, yellow	6d.	20 Spencer Sweet Pea Plants	6d.
3 Heliotrope	6d.	6 Petunia Grandif.	6d.
2 Fuchsias	6d.	20 Alyssum, Little Dorrit	6d.
10 Verbenas	6d.	6 Canary Creepers	6d.
8 Kochia, Burning Bush	6d.	20 Larkspurs	6d.
8 Nicotiana glauca	6d.	12 Double Zinnias	6d.
8 Do., Hybrids	6d.	20 Phlox Drummondii	6d.
20 French Marigolds	6d.	6 Mimulus Tigrinus	6d.
12 Dahlias, sgl., mixed	6d.	50 Leeks	6d.
1 Do., Named Cactus	6d.	50 Onion Plants	6d.
12 Lobelia Emperor William,	6d.	6 Tomato Plants	6d.
light blue	6d.	6 Sage Plants	6d.
12 Do., Crystal Palace, dark	6d.	6 Sweet Marjoram	6d.
blue	6d.	6 Thyme	6d.
12 Do., Mme. Clibran	6d.	50 Cabbage	6d.
12 Do., for hanging baskets	6d.	25 Red Cabbage	6d.
12 Do., golden foliage	6d.	12 Cauliflower	6d.
20 Do., Blue Cornflower	6d.	12 Cosmos	6d.
10 Scabious, tall mixed	6d.	15 Celery, Giant White	6d.
10 Do., dwarf, mixed	6d.	15 Celery, Giant Red	6d.
3 Do., Fire King	6d.	15 Celery, Prize Pink	6d.
		36 Brussels Sprouts	6d.
		36 Borecole	6d.

All orders 10s. and up carriage paid. Smaller amounts, please send 9d. extra. Safe Delivery Guaranteed.

R. S. BANKS, Seamer Road, SCARBOROUGH

addressed to him at the R.H.S. Gardens, Wisley, Ripley, Surrey, to reach him on or before Saturday, June 11, 1921.

British Cemeteries in France and Belgium.

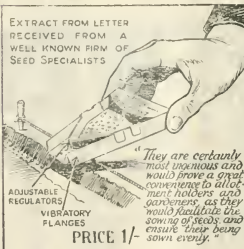
CONSIDERABLE progress has now been made with the formation of British War Cemeteries in France and Belgium, but much work is being delayed owing to the difficulty of obtaining gardeners. Ex-Service men who are qualified gardeners or who have had sufficient experience to enable them to act as assistant gardeners are, therefore, being urged to undertake the necessary work. Applications, stating qualifications, should be made in the first instance by letter to the Secretary (Appointments Branch), Imperial War Graves Commission, 1 Lake Buildings, St. James's Park, London, S. W.1.

Show Fixtures, 1921.

July 23rd.—Terenure and Districts Horticultural Society. Entries close July 19th. Hon. Sec., A. Phipps, Tymon Lodge, Tallaght, Co. Dublin.

EVERYMAN'S SEED SOWER

ECONOMISES THE SEED AND
SAVES THINNING OUT



FROM LEADING
**Ironmongers
Horticultural
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Stores, &c.**

If your dealer is out of stock send 1/2 for Sample post free to

**HOUSE & GARDEN
SUNDRIES CO.**

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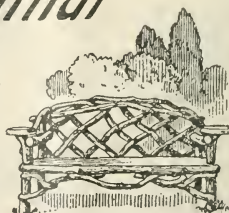
The Garden beautiful BUY RUSTIC WORK

DIRECT FROM THE MAKER AND—
SAVE MIDDLE PROFIT.

WE MAKE ALL KINDS AT ALL
PRICES FROM ANY DESIGN.

Send for Catalogue.

**The Devonshire Rustic Oak
Manufacturing Co.,
PLAYFORD MILLS, BARNSTAPLE, DEVON.**



SEATS FROM 12/-
EACH

Miscellaneous Section.

RICHARD C. McM. SMYTH, F.R.H.S.

DESIGNS & LAYS OUT LAWNS & PLEASURE
GROUNDS, CONSTRUCTS PERGOLAS & PLANTS
WATER, ROCK, FLOWER AND BOG GARDENS

MOUNT HENRY, DALKEY, CO. DUBLIN

H. J. JONES guarantees the plants offered below to be extra good and true to name, and will send them box, packing and carriage free for cash with order:—

BEGONIAS, 12 very fine double, mixed colours, 7/6. 12 very fine single, mixed colours, 7/6.

CARNATIONS, PERPETUAL, 12 grand varieties, 10/6.

DAHLIAS, Cactus, Show, Poms, Decorative, Paeony, Collarette, Single and Stars, all at 8/- per dozen.

FUCHSIAS, 12 very fine new French varieties, 10/6; 12 very fine varieties, single and double, 6/-.

GERANIUMS, Zonals, single; the Grand New Ship Set (raised by Mrs. H. J. Jones), 12 glorious kinds, 30/-; 12 fine new kinds, 12/-; 12 very fine kinds, general collection, 7/6; semi-double, 12 grand new French kinds for 12/-; semi-double, general collection, 12 extra fine 7/6; doubles, 12 very fine kinds, 7/6.

GLOXINIAS, 12 extra fine named varieties, 10/6; 12 very fine mixed colours, 7/6.

MONTBRETIA, 12 grand Earham Hybrids, 10/-.

MICHAELMAS DAISIES, 12 very fine new kinds, 10/6.

PHLOX, 12 very fine kinds, 10/6.

PINK Allwoodii, 4 best varieties for 5/-; **PINK GLORY**, the new crimson, 3 for 2/6.

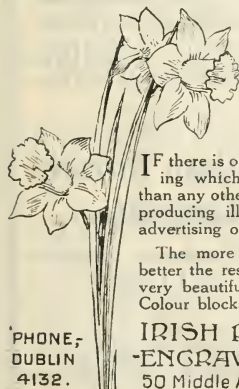
RYECROFT NURSERIES, Lewisham, S.E. 13.

For GARDENS & FIELDS

Best quality Oak Fencing Stakes, also Oak Scantlings,
any size you may require, put on rail immediately

Your enquiries will oblige

S. Myers & Son, Birr, King's Co.



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IF there is one kind of advertising which lends itself more than any other to artistic result-producing illustration it is the advertising of Seeds.

The more you illustrate the better the results. We produce very beautiful Line, Tone, and Colour blocks for this purpose.

**IRISH PHOTO-
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DON'T STRIKE BUT USE Tabor's World's Famous FERTILISER

Gets right there, and makes everything grow to perfection. **Clean to handle.** Sold everywhere for Horticultural uses in 2/6, 4/6, 8/-, 10/- size tins, larger quantities reduced prices. Guaranteed Highest Analysis.

Ask Florists, Seedsmen, also Whitley's & other store & or write:
B. TABOR, Billingsgate, LONDON. (Agents wanted everywhere)

SEND FOR PRICE LIST AND SAMPLE

WEED KILLER

LITTLE'S

LIQUID AND POWDER.

In Tins and Drums—
½, 1, 2, 5, 10 gallon.

In Tins and Cases—
To make 12, 25, 100
to 1,000 gallons.

LITTLE'S FRUIT TREE WASHES.
BOOKLET ON APPLICATION.

MORRIS, LITTLE & SON, LTD.,
DONCASTER.

WELLS' CATALOGUE OF

CHRYSANTHEMUMS NOW READY

Post free on application

W. WELLS & COMPANY
MERSTHAM, SURREY

THEY ARE THE BEST AND CHEAPEST
ALL HAND MADE



Artistic Fern Pans and Bulb Bowls

State Quantities and Sizes required, and have "Carriage Paid" quotation, or write for Price List—FREE

RICHARD SANKEY & SON, Ltd.
Royal Potteries, Bulwell, Nottingham



AUTO-SHREDS

Is CERTAIN DEATH to leaf-mining Maggots, White Fly and all Pests infesting Plants under Glass. In boxes to fumigate 1,000 cubic feet, 1/-; 2,500 cubic feet, 1/9; 10,000 cubic feet (for ordinary Plants), 4/6; 10,000 cubic feet (for tender foliaged Plants), 8/- each. Obtained of all principal Seedsmen and Florists. Makers:—

W. Darlington & Sons, Ltd.
HACKNEY, LONDON, E.8

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NO APPARATUS REQUIRED

July 1921

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HORTICULTURAL GLASS, PAINTS, &c.

- GLASS . . . Cut to dimensions, packed and delivered at your railway station. Also stocked in the regular box sizes
- PAINT . . . "BROMAS" for general household and estate purposes
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- GREENHOUSES And GARDEN FRAMES.

Also TIMBER, SLATES, BRICKS, IRONMONGERY, and every Building Requisite

BROOKS THOMAS & CO.
LTD.

BUILDERS' PROVIDERS, Sackville Place,

Dublin

Plants must be Fed

To Horticulturists

The two main elements of success in gardening are proper tillage and
:: intelligent Fertilizing ::

Always follow up your Autumn and Winter manuring with a top dressing in the Spring and early Summer of

Nitrate of Soda

Any of the
Leading
Seedsmen
and Dealers
will supply
it.

It is easily applied—quick in its action—and a necessary ingredient
: for the well-being of the plant :

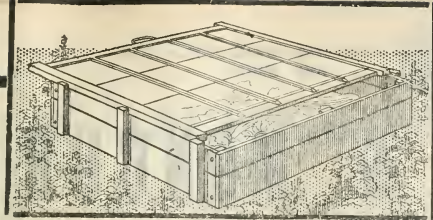
SEND for the Pamphlets entitled
"Successful Gardens"
for Every Amateur.
and "The Manuring of Orchards and Fruit Trees," supplied gratis and post free by

THE
**Chilean Nitrate
Committee**

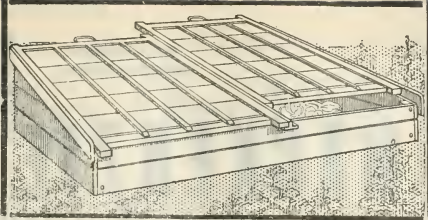
25 Chichester Street
BELFAST

OR

Friars Buildings, New
Broad St., LONDON,
E.C.



No. 80.—This is an Ideal Frame for Allotment Holders and Small holders. Size, 4 ft. 9 in. by 3 ft. 9 in. Sides, 9 in. high. Painted two coats and glazed with 15 oz. glass. Frames also supplied in other styles and sizes. Price £3.



No. H. 75.—The fronts are 11 in. high, backs 22 in. high. The frame is 1 in. thick, and the lights 1 in. glazed with 15 oz. glass, and painted two coats. 1-light frame, 4 ft. by 6 ft. £5 14s.; 2-light frame, 8 ft. by 6 ft. £8 8s.; 3-light frame, 12 ft. by 6 ft. £11 4s. 6d.

B. & P. Frames—Best in the long run

It is not now—but in a few years time that the sound construction of a B. & P. Horticultural Frame is fully appreciated. Every Horticultural unit made at our Norwich Works is produced by skilled workmen from selected seasoned material—It is our aim to build frames at moderate prices that will outlast those of competitors.—The generous appreciation afforded our Horticultural frames and appliances is evidence that our aim is fulfilled.

Enquiries invited for Greenhouses, Conservatories, Vinery Ranges, Peach Houses, Carnation Houses, Heating Systems, Garden Frames, etc., of all descriptions, with requisite accessories.

These are in Stock Ready for immediate Delivery. Write for our List of Garden Frames & Small Greenhouses.

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NORWICH

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London Office: 135-7, QUEEN VICTORIA ST.

"ACME" WEED KILLER

DESTROYS WEEDS, MOSS, etc., ON CARRIAGE DRIVES, GARDEN WALKS, ROADS, etc.

Awarded Gold Medal Anglo-American Exhibition, Bronze Medal Royal Horticultural Society.

POWDER WEED KILLER.

The same chemical compound as the liquid, and only needs the addition of water.

Dissolves Quickly in Cold Water.

SIZE OF TINS.

No. 1, sufficient to make 12½ galls.	2/-	postage 9d.
" 2, " " 25 " "	3/6	" 1/-
" 3, " " 50 " "	7/-	" 1/-
" 4, " " 100 " "	12/6	" 1/6
" 5, " " 150 " "	18/-	post free

Tins free.

Lawn Sand.—Kills Daisies, etc., and fertilises the grass. No other manure necessary. 7 lb., 2/3; 16 lb., 16/- On rail Tonbridge.

Soluble Paraffin.—Mixes instantly with water and does not separate. 1 lb., 2/9. post free. 1 oz. sufficient for 1 gallon of water.

Arsenate of Lead (Paste) for destroying all leaf-eating insects. 3/- per lb., post free. 1 lb. sufficient for 20 gallons of water.

Extract of Quassia insecticide.—1 gallon 5/-; Drum 3/9, allowed when returned; carriage paid on 5 gallons. Pint, 2/6. post free.

Compound Extract of Quassia Tobacco Insecticide.—Pint, 2/6; quart, 4/-, post free.

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Dainty Rock Plants



THERE is no time like the present for transplanting these interesting and charming plants from pots. They will become well rooted before the arrival of Winter and next Spring will be "poems of beauty."

Bees' "UNCLE REMUS" Collection of 12 Rock Plants.

10/- Carriage Paid.
(12 first-class hardy plants to bloom in mid and later summer.)

Beesian Primrose	Innocence Sunrose
Rosy Rockfoil	White Star Bellflower
Creeping Gromwell	Crimson Thyme
Rose Queen Sunrose	Yellow Rockfoil
Florentine Rockrose	Greek Milfoil
Balearic Sandwort	Carpathian Bellflower

Bees' "RAVENSWOOD" Collection of Rockery Plants.

10/- Carriage Paid.
(12 first-class hardy plants to bloom in the early summer.)

Warley Candytuft	Evergreen Candytuft
Pritchard's Aubrietia	Scarlet Rockfoil
Little Bee Rockfoil	Yellow Greekian Violet
Grecian Violet	Golden Alyssum
Toothed Primrose	Pink Rockfoil
Daisy Everlasting	Julia's Primrose

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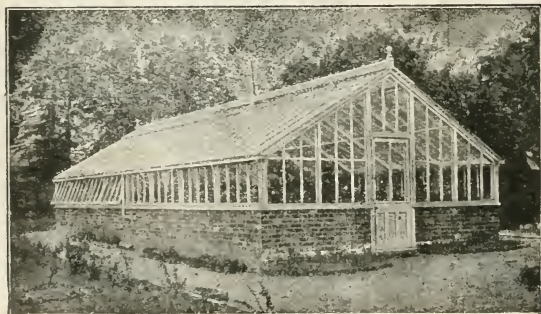
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**Royal Horticultural
and Arboricultural
Society of Ireland**

Summer Show

By kind permission of the Earl
OF IVEAGH, K.P. In the grounds
and covered yard of His Lord-
ship's St. Stephen's Green
residence

**On Wednesday, July 13th and
Thursday, July 14th, 1921**

Schedules and all particulars from
E. KNOWLDIN, Secretary
5 MOLESWORTH ST., DUBLIN

Entries close July 6th

Correspondence.

POPULUS GENEROSA.

SIR, I have read with interest Prof. Henry's account of this fine hybrid poplar. He and others of your readers may like to know that I have a flourishing specimen here. It is about 25 feet high, and would have been taller only that it grew with such amazing rapidity that I became frightened lest it should get broken in a gale. So I took off three or four feet from the top and let it make a new lead.

In your Tree and Shrub Notes of the same issue you throw some doubt on the hardness of *Tribunum microcephalum*, and as this may discourage some of your readers from trying this valuable shrub,

Terenure and Districts Horticultural Society.

OWING to circumstances beyond the control of the Committee it has been found necessary to abandon the Show for 1921.

A. PHIPPS, Hon. Sec.

which carries in profusion the finest flower-heads of any of this large genus, and keeps on flowering all the summer through, I think it worth recording

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Large Stocks.

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Fruit Trays, &c.

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cannot Cramp
because
they do not
touch the
Hoof.



Fig. 1. Boot for Shod Horses.

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Metal to Metal
Fastening.
Perfect Ven-
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Fig. 2. No-Welt Pattern

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all over the world for QUALITY
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present day for every description of Fruit bearing, Flowering
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1/- dozen, 7/6 100.

Intermediate.

Bonfire (vivid Scarlet).	Niobe (crimson).
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that it has been growing here for the last 12 or 15 years and has proved absolutely hardy.

True, it has suffered, as will the hardiest plants, from unseasonable frosts in early autumn and late spring, but when dormant in winter it has shown itself impervious to a temperature of zero or thereabouts.

VICARY GIMES.

Aldenham House,
6th June, 1921.

DEAR MR. EDITOR.—One of the most interesting and important articles on Alpines that I have read for some time is the one on "Longevity in Rock Plants," by my friend, Mr. J. Harper Sciffe.

The pith of the article lies in the following words: "But the rock garden is a place for growing Alpine plants in, year in and year out, and not a place for bedding out for the flowering season." These words, in my opinion, point the ideal to which every true rock gardener should aim. The bedded-out rock garden can be recognised at a glance, and never has the beauty of one where aged clumps spread here and there and self-sown seedlings spring forth in likely and unlikely places. There is a garden in Dublin where (I trust the owner will not take offence at this statement) I think neither the plants nor the stone were put out with any idea of artistic arrangement, but where the owner skilfully allows the plants to grow into large masses, and to seed in all and every direction. The result is that in May or June this garden is one of the most beautiful sights one could wish to see. Such a garden is a study in the survival of the fittest, and any rock garden worthy of the name will be the same. I am aware of the fact, and readily admit that many rock

plants never do survive, and perhaps never will, when planted out in the open. All I can say, then, is, if after many trials in different positions and aspects you cannot get the species to grow, give it up! otherwise you will degenerate into a "bedding-out," not a "rock," gardener. However, experimenting with any but the commonest Alpines is likely to be a somewhat expensive hobby, and therefore such lists as Mr. Sciffe's, while not guaranteeing a like success in one's own garden, are of great value as guides apart from their inherent interest. Having only possessed my present rock garden for two years, I cannot as yet add any practical knowledge to the discussion, but from my experience in Dublin I can corroborate what Mr. Sciffe says *re Sax. oppositifolia*. I had a clump in the same position for seven years; it flowered regularly and most freely, was top-dressed each year, but never divided, and was quite happy when I had to leave it in 1915. Other plants which I recollect at the moment as existing for seven years were *Dianthus neglectus*, *Erodium Reichardii*, *Camp. tridentata*, *Iris cristata*, *Iberis petraea*, and *Camp. Allouii*. Plants are not immortal, but I think that any species which as an individual or as self-sown seedlings maintains itself in a garden for over, say, seven years, can be considered as long-lived for our purpose. Finally, Mr. Editor, you would put readers of *I.G.* under a debt of gratitude if you could persuade the owner of the garden I mentioned, to wit, Mr. Lloyd Praeger, and also that well-known gardener, Mr. Murray Hornbrook, to give us their experiences with long-lived Alpines.—Believe me, yours very truly,

F. B. ANDERSON.

Tunperley, Cheshire,
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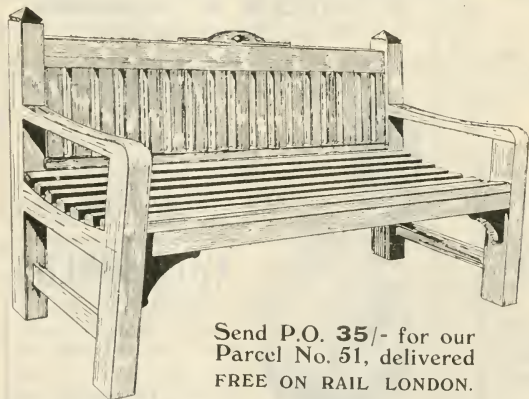
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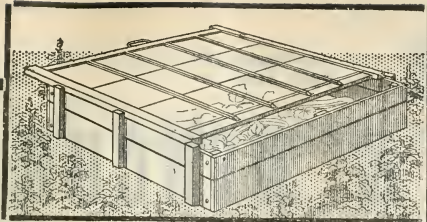


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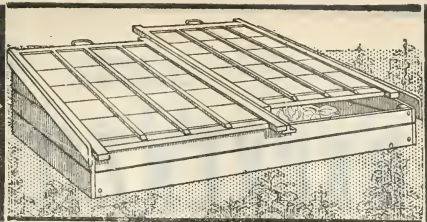
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Pritchard's Aubretia	Scarlet Rockfoil
Little Bee Rockfoil	Yellow Grecian Violet
Graecian Violet	Golden Alyssum
Toothed Primrose	Pink Rockfoil
Daisy Everlasting	Julia's Primrose

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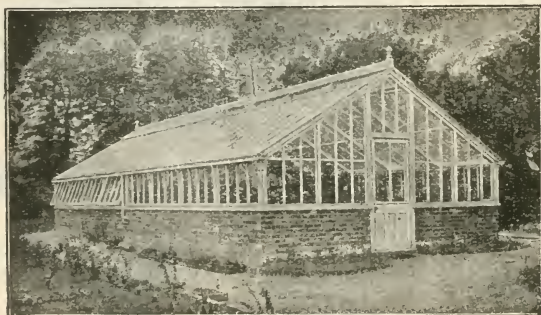
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Ailsa Craig	...	2	6	1	0
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Auricula. Dickson's Prize	...	1	0	.. 1 6
Alyssum. Saxatile Yellow	...	0	6	.. 0 6
Calceolaria. Dickson's Prize	...	1	6	.. 2 6
Canterbury Bells. Rose, White,	...			
Blue or Mixed	...	0	3	.. 0 6
Géum. Mrs. Bradshaw, Double Scarlet	...	0	6	.. 0 6
Myosotis. (Forget-Me-Not) in variety	...	0	6	.. 1 0
Pansy. Dickson's Prize	1/-,	1	6	.. 2 6
Poppay. Iceland. White, Yellow	...			
Orange	...	0	3	.. 0 6
" " New Giant, Art Shades	...	1	0	.. 1 0
Polyanthus. New Giants Mixed	...	0	6	.. 1 0
Schizanthus. Hawlmarm Hybrids	...	1	0	.. 1 0

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DUBLIN

Royal Horticultural and Arboricultural Society of Ireland.

IMPRESSIONS OF THE SUMMER SHOW.

MANY there were who feared greatly the effect of the prolonged drought, and prophesied a big drop in the number of exhibits. The impression gained by a walk round was, that while accommodation could certainly have been found for more, yet many more would have unduly crowded the spacious covered yard, so kindly lent by Lord Iveagh. As a matter of fact some of the exhibits of hardy flowers were somewhat crowded. In spite of the drought the sweetness and freshness of the flowers was a revelation and a testimony to the skill and care devoted to their production by the growers.

Immediately inside the entrance a wonderful

Colchicums & Autumn Flowering Crocus

NOW IS THE TIME TO PLANT

List of these and other Bulbs free on application

T. Smith, Daisy Hill Nursery, Newry

exhibit of Sweet Peas by Messrs. A. Dickson & Sons, called forth much admiration, and following this a group of hardy flowering shrubs and herbaceous plants shown by Messrs. T. Smith & Sons, Newry, made a great impression on visitors by reason of the immense variety of choice flower-

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Hyacynth, top size, in red, rose, blue, lilac, white, and blush, in 25 different varieties, s. d.	s. d.
my selection	24 0 3 2
.. in very fine mixture, all colours	12 0 1 10
.. in miniature mix, also strong bulbs	7 6 1 10
Tulips, Single, in fine mixture	6 0 0 10
.. Double, in	7 0 0 11
.. Darwin, in	8 0 1 1
Crocus, top size, in 10 fine varieties	4 0 —
.. mixed all colours	3 0 0 5
Scilla Siberica, blue	5 0 0 8
Trumpet Narcissus, mixed	6 0 0 10
.. single	5 6 0 9
Snowdrops, single	4 0 0 6
Boytridius, blue (Grape Hyacinths)	3 0 0 6
Spanish Iris, in fine mixture	1 10 —

Excellent quality guaranteed. No connection with firms of a similar name. Catalogue post free on application. 25 bulbs same name at 100 rate, 6 bulbs same name at doz. rate

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Fig. 2. Welted Pattern, Copper Riveted.

Fig. 1. Boot cannot Cramp because they do not touch the Hoof.



Fig. 1. Boot for Shod Horses.

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Over 10,000 Sets used in the United Kingdom. HUNDREDS OF TESTIMONIALS. Soles of best English Sole Leather (Waterproofed), with Motor Tyre Rubber Studs, or Rubber Soles Strongly Recommended. Repairs.—The "PATTISSON" BOOTS can be resoled repeatedly equal to New Boots, but this can only be satisfactorily done by us, the Makers.

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Fig. 2. No-Welt Pattern



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Has the honour to announce that his Illustrated Price List of Bulbs and Plants in English, Autumn, 1921, at lowest prices, will be sent post free on application. No charge for packing. Orders of 15/- and above entirely free to Destinations in England, Scotland, and Ireland, &c. First Quality guaranteed.

SOME SELECTIONS OF BULBS FROM PRICE LIST

	doz.	100
	s. d.	s. d.
Hyacinths, in the finest mixture for bedding or forcing	2 0	12 0
Hyacinths, single, first size, named, in 25 leading sorts, red, white and blue varieties, equal quantities, my selection	3 6	23 0
Tulips, single early, in the finest mixture	1 0	7 6
Crocus, first size, in the finest mixture	0 6	3 0
Crocus, second size, in the finest mixture	0 4	1 8
Chionodoxa lucifera (Glory of the Snow), blue	0 8	4 6
Iris, Spanish, mixed	—	1 8
Darwin Tulips, mixed	0 11	8 0
Single Narcissus, mixed	—	4 0
Double Narcissus, mixed	—	6 0
Trumpet Narcissus	—	5 0
Poetieus Ornatus	—	3 6
„ Single, H. Von Sion, Yellow	—	4 6
„ Golden Spur	—	7 6

25 Bulbs will be charged at the 100 rate. 6 at the price per doz.

Ask Your Nurseryman or Seedsman

For the following Well Known and Highly Efficient Horticultural Preparations.

THE CHEAPEST INSECTICIDE OF THE DAY “NIQUAS”

(NON-POISONOUS)

IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for syringing and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/4; pint, 2/3; quart, 3/9; half-gallon, 6/-; gallon, 11/-; five gallons, 36/-; ten gallons, 62/6; twenty gallons, 120/-; 1 gallon sufficient for 80 gallons of water.

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Exceeds all others in General Fertilising Properties and Staying Powers
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For Fumigating in Greenhouses.

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“SUMMER CLOUD” SHADING

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For Greenhouses. A pleasant green shade is given to the glass. In packets, 1/6 for 100 feet of glass, and 4/- each for 300 feet.

Sole Manufacturers:

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To be obtained from all dealers in Horticultural Sundries

ing subjects shown, testifying to the rich resources of Daisy Hill Nurseries.

Lower down the hall the Donard Nursery Company had a fine exhibit in the same class in which immense groups of *Dierama pendula* in several colours were conspicuous. This group was staged in bolder style, and included many of the specialities for which the firm is known, particularly the rarer shrubs, Japanese Irises, &c. Messrs. Watson's stand of Roses and hardy flowers was much admired for its freshness and tasteful arrangement, the pillars of "Red Letter Day" and other roses making an attractive display.

An unusual feature was a group of *Thunia Marshalliana* from Messrs. A. Dickson, of Blackrock, Dublin. The annuals shown by Mrs. Barrett, of Firtown, Sallins, and J. M. Sweetman were of outstanding merit, and it is doubtful if finer annuals have ever been staged; the bunches of Shirley Poppies of exquisite colouring, gorgeous *Salpiglossis* and charming *Clarkias*, &c., were a revelation in the possibilities of annual plants. Probably the most outstanding feature of the exhibition was the marvellous display of vegetables staged by B. H. Barton, Esq., D.L., of Straffan House, Kildare. The quality of every item was beyond reproach, and the manner of display was in the most up-to-date style, equalling anything ever shown in London or elsewhere. Every vegetable and salading plant in season was represented, and the exhibit was in every way a credit to the gardener. Mr. Streeter, who is well known as a writer in this journal.

Vegetables generally were of good quality, though there was evidence of the long drought.

Fruit was weak and formed the least satisfactory

feature of the exhibition, and again, this was, doubtless, due to weather conditions.

Roses generally could not be compared to many former years, and few exhibits were forward; in this case only, the benches were comparatively empty.

Sweet Peas in the classes not open to the trade were good, the wonderful exhibits from Lord Powerscourt again winning the favour of the judges and gaining the unstinted admiration of the public. Hardy cut flowers, including shrubs but excluding biennials, were, as ever in Dublin, an outstanding feature. In few other shows can such masses be seen of plants like *Helichrysum rosmarinifolium*, *Dendromecon rigidum*, *Dierama pendula*, *Diplacus glutinosus*, *Romneya Coulteri*, *Pittosporum*, *Tricuspidaria lanceolata* and others of like quality.

The Society deserves all credit for its continual efforts to encourage horticulture in Ireland, and should conditions become more settled there is every hope that bigger and finer exhibitions may take place in the future.

X.

Seeds of Quality.

MESSRS. M. ROWAN & Co., of Capel Street, Dublin, have issued their list of seeds for autumn sowing. The issue is timely, and the list of items to the point. Now is the time to prepare for next spring by sowing Onions, Cabbage, Cauliflower, Lettuce, &c. Messrs. Rowan's list gives the best varieties and tells when to sow them. Rowan's Quality Seeds are now well known, and we cannot do better than recommend our readers to send for the list. They will like it.

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By MARY HAMPDEN

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THIS instructive work—the outcome of many years' practical experience—was submitted to one of the most prominent and successful rose growers in England, whose opinion is that the information given is comprehensive and thoroughly reliable in every respect. Sixteen blooms are accurately depicted in Miss West's beautiful series of coloured plates. **7/6** net

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THIS pleasant and carefully written handbook offers a practical solution of the difficulties experienced by the town and suburban gardener. It describes fully the means of gaining the best effects in beds, borders, rockeries and urns; methods of dealing with creeping and climbing plants on walls, fences, verandahs. Lists of plants, trees, shrubs, &c., specially suitable for town culture. **6/-** net

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mining Maggots, White Fly and
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Glass. In boxes to fumigate 1,000
cubic feet, 1/-; 2,500 cubic feet,
1/9; 10,000 cubic feet (for ordi-
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etc. Obtained of all principal
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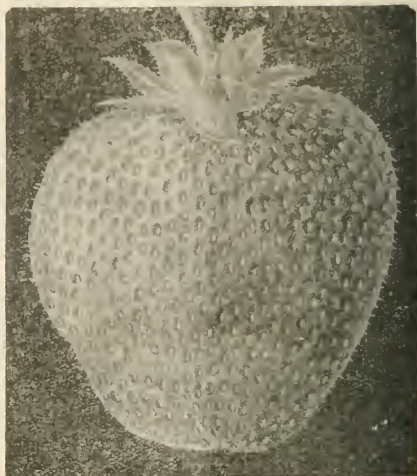
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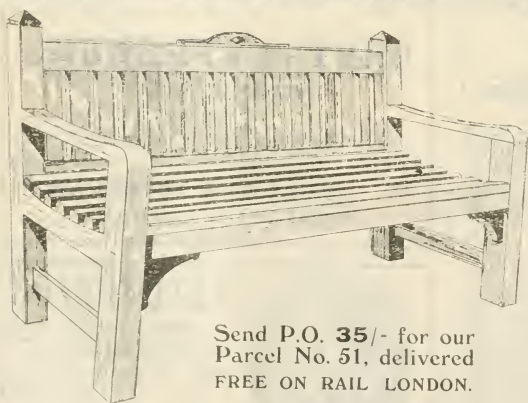
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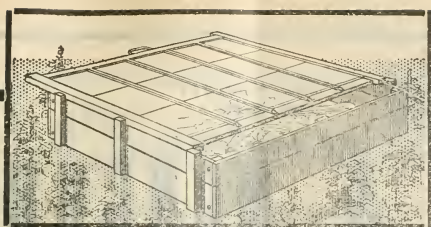


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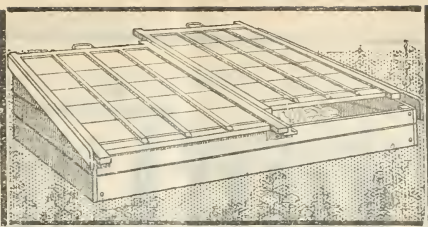
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can be put together in ONE HOUR with the aid of a screw-driver and hammer. We supply a parcel of selected machined timber with every joint and component parts marked. Also a dimensioned sketch and full instructions for complete assembly. An amateur can make a "professional finish." This substantial and artistic Garden Seat is 5 ft. 6 in. long, and will seat four or five persons ; when finished it

Woods Machinery Co., 2c Florence Road, **London, S.E. 14.**
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No. 80.—This is an Ideal Frame for Allotment Holders and Small-holders. Size, 4 ft. 9 in. by 3 ft. 9 in. Sides, 9 in. high. Painted two coats and glazed with 15 oz. glass. Reduced Price £2 17s. Frames also supplied in other styles and sizes.



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Every inch of each Frame is thoroughly examined by experts before being sold to the Public. As present stocks are limited, early orders are advised.

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	doz.	100
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Hyacinths , in the finest mixture for bedding or forcing	2 0	12 0
Hyacinths , single, first size, named, in 25 leading sorts, red, white and blue varieties, equal quantities my selection	3 6	23 0
Tulips , single early, in the finest mixture	1 0	7 6
Crocus , first size, in the finest mixture	0 6	3 0
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Chionodoxa lucilæ (Glory of the Snow), blue	0 8	4 6
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Trumpet Narcissus	—	5 0
Poeticus Ornatus	—	3 6
„ Single, H. Von Son, Yellow	—	4 6
„ Golden Spur	—	7 6

25 Bulbs will be charged at the 100 rate. 6 at the price per doz.

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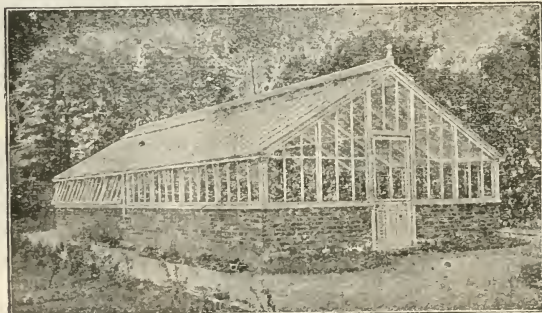
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Narcissus and Daffodils.

Barrii Conspicuous	1	6
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Golden Spur	2	3
Sir Watkin	2	6
Double Daffodils	2	3
Poetaz Elvira	2	6
Aspasia	2	6
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And all other Bulbs.

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Royal Horticultural Society of Ireland.

THE monthly meeting of the Council was held at the offices, 5 Molesworth Street, Dublin, on the 12th ult. Present—The President, the Marquis of Headfort; Sir Frederick W. Moore, and Messrs. W. F. Ginn, J. P., H. Bill, G. M. Ross, M.A.; J. E. Geoghagan, M.A.; R. Lloyd Praeger, B.A.; E. D'Olier, H. E. Richardson, J. Wylie-Henderson, Robert Anderson, Jas. J. McDonough, with Mr. A. V. Montgomery presiding. Various correspondence was dealt with, and Mr. E. H. Walpole, writing to Sir Frederick Moore, raised the question as to the possibility of establishing an exchange of surplus plants by members of the Society. The project was very favourably entertained, and the matter was referred to the Hon. Officers to consider a scheme for carrying it into effect. The question of the tax now paid on members' subscriptions was discussed, and the Secretary was directed to write to the Commissioners of Customs and Excise on the matter, calling attention to the fact of exemption from the tax being granted to a similarly situated Society whose work is purely educational. A balance sheet of the summer show was considered, approved, and accounts in connection with it, including the prize list, ordered for payment. It was considered that prospects for the winter show, which, by kind permission of Earl Iveagh, K.P., will be held in the covered court, Earlsfort Terrace, Dublin, October 19 and 20, were very promising, entries for this show being already to hand. The following new members were elected:—Mr. Stephen S. Magill, Gortmore Terrace, Omagh, proposed by Mr. G. Doolan; Mr. N. P. Cotter, A.R.C., Athlone Road, Roscom-

mon, proposed by Mr. William Young; Mrs. W. P. Cairnes, Stameen, Drogheda, proposed by Mrs. Woods; Miss Constance Law, Derryhawn, Blackrock, proposed by Miss F. A. Geoghagan; Capt. Evelyn Shirley, Lough Fea, Carrickmacross, proposed by Mr. J. G. Toner; Mr. J. Gilleran, Killymon, Newtownmountkenedy, proposed by the Secretary; and Mr. Joseph Walker, Rathgar House, Rathgar, proposed by Mr. J. Wylie-Henderson.

Farmers and Income Tax.

THIS is the subject of an important leading article in *The Financial Times* of June 30th. The subject is of supreme importance to farmers at this critical juncture in agricultural affairs. The article is evidently written with expert knowledge of present circumstances, touching on the changes in the method of assessment since the rise in profits which took place during the war, and, on the other hand, noting the rise in wages and other expenses. It is pointed out that farmers have the option of claiming assessment under Schedule B, or under Schedule D (actual profits). It is further stated that the Inland

Colchicums & Autumn Flowering Crocus

NOW IS THE TIME TO PLANT

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On the market for over 40 years, they still hold first place in the estimation of Horticulturists all over the world for **QUALITY** and **RESULTS**.

The direct results of many years' practical experience in gardening, they stand unrivalled at the present day for every description of Fruit bearing, Flowering and Foliage Plants, Vegetables, Lawns, etc., etc.

Vine, Plant and Vegetable Manure, 1 cwt., 38/-; 56 lbs., 19/-; 28 lbs., 10/6; 14 lbs., 6/-; 7 lbs., 3/6; tins, 1/6.

Special Top-Dressing Manure, 56 lbs., 19/-; 28 lbs., 10/6; 14 lbs., 6/-; 7 lbs., 3/6.

WRITE FOR OUR BOOKLET—POST FREE ON REQUEST.

SOLD BY NURSERYMEN AND SEEDSMEN EVERYWHERE.

Sole Makers: WM. THOMSON & SONS, LTD., CLOVENFORDS, SCOTLAND.

BENTLEY'S SPECIALITIES

WEED DESTROYERS

DAISY KILLER

(Lawn Sand)

INSECTICIDES

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SOLE MANUFACTURERS

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CHEMICAL WORKS

Barrow-on-Humber, HULL

Ask Your Nurseryman or Seedsman

For the following Well Known and Highly
Efficient Horticultural Preparations.

THE CHEAPEST INSECTICIDE OF THE DAY "NIQUAS"

(NON-POISONOUS)

IMPROVED

A Concentrated Extract of Quassia, combined with other valuable ingredients, forming a cheap, safe, and effective Insecticide for syringing and dipping. It destroys all Insect Pests infesting Trees and Plants, whilst no possible injury to vegetation can result from its use.

It can be applied with syringe or pump, or used for dipping.

PRICES—Half-pint, 1/4; pint, 2/3; quart, 3/9; half-gallon, 6/-; gallon, 11/-; five gallons, 36/-; ten gallons, 62/6; twenty gallons, 120/-; 1 gallon sufficient for 80 gallons of water.

STANDEN'S MANURE

(Established over 35 Years)

Exceeds all others in General Fertilising Properties and Staying Powers
Analysed on Application

Sold in Tins, 9d., 1/6, 3/9, 7/- each. Cheaper in Bulk.

For Fumigating in Greenhouses.

"LETHORION"

IMPROVED METAL CONES

Registered No. 62,687

To destroy Insect Pests. The Candle attached to each Cone only needs lighting, and there is no further trouble. They are most efficacious.

No. 1. For frames and "lean-to's" up to 1,000 cubic feet. Price, 10d. each.

No. 2. For small greenhouses up to 1,500 cubic feet. Price, 1/3 each.

No. 3. For a well secured house of 2,000 to 2,500 cubic feet. Price, 1/9 each.

FOWLER'S LAWN SAND

This preparation is for destroying Daisies and other weeds on lawns and at the same time stimulating the growth of the grass. If one sie is tried as a sample, its value will be at once appreciated. Sales are largely increasing.

Tin, 1/6, 3/9 and 7/- each; Bag, 1/2 cwt., 11/-; 1 cwt., 21/-; 2 cwt., 39/-

ELLIOTT'S

"SUMMER CLOUD" SHADING

Registered Trade Mark No. 14,628.

(The only genuine original and improved article)

For Greenhouses. A pleasant green shade is given to the glass. In packets, 1/6 for 100 feet of glass, and 4/- each for 300 feet.

Sole Manufacturers:

CORRY & Co., Limited

Merchants and Manufacturers of Nurserymen, Seedsman and Florists' Sundries and Tobacco Preparations Free of Duty, for Agricultural and Horticultural Purposes.

To be obtained from all dealers in Horticultural Sundries

DUTCH BULBS

HERMAN THOOLEN

Bulb Grower

ALKMAAR :: HOLLAND

Offers at the following moderate prices, carriage and packing free for Orders of 20/- value and upwards in the United Kingdom:—

Hyacinths, top size, in red, rose, blue, lilac, white, 100	s. d.	12
and blush, in 25 different varieties, 5	d.	3
my selection	24	0 3 2
" in very fine mixture, all colours	12	0 1 10
" in miniature mix, also strong bulbs	7	6 1 0
Tulips, Single, in fine mixture	6	0 10 0
" Double, in	7	0 0 11
" Darwin, in	8	0 1 1
Crocus, top size, in 10 fine varieties	4	0 —
" mixed all colours	3	0 0 5
Scilla Siberica, blue	5	0 0 8
Trumpet Narcissus, mixed	6	0 0 10
" single	5	6 0 9
Snowdrops, single	4	0 0 6
Boytriodus, blue (Grape Hyacinths)	3	0 0 5
Spanish Iris, in fine mixture	1	10 —

Excellent quality guaranteed. No connection with firms of a similar name. Catalogue post free on application. 25 bulbs same name at 100 rate. 6 bulbs same name at doz. rate.

For GARDENS & FIELDS

Best quality Oak Fencing Stakes, also Oak Scantlings, any size you may require, put on rail immediately

Your enquiries will oblige

S. Myers & Son, Birr, King's Co.

Revenue authorities "have drawn up a comparatively simple form of accounts which there should be no real difficulty in filling up." The main object of the article is to urge farmers to keep proper accounts from now onwards, and considering the undoubted advantages of such a course, farmers who are in any doubt should consult a man of business at once.

Obituary.

WE join, with many others, in offering our sympathy to the relatives of Mr. J. B. Blackmore, whose recent death removed from amongst us one of the most successful horticulturists of our time. Originally an engineer, Mr. Blackmore began in 1886 to grow Begonias as a hobby, and later, in 1900, in partnership with Mr. C. F. Langdon, founded the firm of Blackmore and Langdon, with nurseries at Twerton Hill, Bath.

As Begonia specialists the two gentlemen established a world-wide reputation, and the most magnificent varieties ever seen have come from Twerton Hill. We have had occasion to call attention to the firm's catalogue on many occasions, and the fine display of Begonias which has for many years been a feature in the Botanic Gardens at Glasnevin always contains many of Blackmore & Langdon's finest forms.

Catalogues.

MESSRS. HOGG & ROBERTSON have issued their new season's catalogue, and readers who saw the wonderful display of Darwin and May-flowering Tulips shown by this firm at the Spring Show of the Royal Horticultural Society of Ireland will not need to be told that the list of bulbs offered is exceptional.

Messrs. Hogg & Robertson specialise in the best garden varieties of Tulips, Daffodils, Gladioli, Irises, Anemones, &c., and from time to time astonish and delight the public with magnificent exhibits at the various exhibitions in Dublin. Other bulbs and tubers grown extensively by the same firm include Lilies, Montbretias, Begonias,

Crocuses, Scillas, Muscaris and Snowdrops. At their bulb farms at Rush they have a large area under cultivation and deserve support in carrying on this important industry.

Fruit Growing in Ireland.

From the latest Agricultural Statistics published by the Department of Agriculture and Technical Instruction, we find that—"The total area under fruit in Ireland increased from 15,567 acres in 1916 to 17,024 acres in 1917, to 18,503 acres in 1918, to 19,795 acres in 1919, and 21,296 acres in 1920. The increase from 1916 to 1920 was 5,729 acres, or 36.8 per cent. In this interval 28 counties increased their area under fruit. In four counties the areas decreased.

"Armagh is much the largest fruit growing county in Ireland, having in 1920 no less than 5,541 acres under fruit. Only three other counties had an area of over 1,000 acres—Antrim with 1,566 acres, Cork with 1,350 acres, and Tyrone with 1,110 acres."

Utilising the Orchard Waste.

WHAT may prove to be a very valuable discovery has been made at Annapolis, Nova Scotia, in a method of extracting by-products from waste and otherwise useless apples. It has been found that even the most intensely acid and usually worthless apple may be so treated by a simple process as to yield syrup which has been pronounced eminently desirable as a basis for other concoctions not hitherto so well supplied. And not only is this syrup valuable, but another by-product has become evident in deposits of calcium malate, the same article as is derived from maple syrup and known as sugar sand.—*Canadian News Items*

Notice.

[WILL M. M. please send address, as owing to pressure on space last month replies to correspondents were crowded out, and we had no address to forward reply to.—ED.]

Anthony C. Van Der Schoot

ESTABLISHED 1830

Largest Bulb and Perennial Farms in Holland



Do not order before you have perused my new descriptive catalogue, containing the most favourable terms and showing more than 50 reproductions and coloured prints of various flowers, and which list will be mailed free on application.

FREE DELIVERY.

NO CHARGE FOR PACKING.

HILLEGOM — HOLLAND

Best Quality Galvanized Wire Netting.



PRICES PER ROLL OF 50 YARDS.

12 in. x 2 in. 6 6; 24 in. x 2 in. 12 -; 36 in. x 2 in. 16 6
48 in. x 2 in. 22 -; 60 in. x 2 in. 27 6; 72 in. x 2 in. 33 -
36 in. x 1 1/2 in. 22 -; 48 in. x 1 1/2 in. 29 -; 72 in. x 1 1/2 in. 43 9
12 in. x 1 in. 6 -; 24 in. x 1 in. 11 -; 36 in. x 1 in. 15 6
per roll 25 yards.

Barbed Wire.

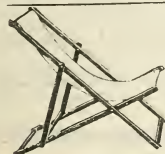
4 point Thick Set (440 yds. 1 cwt.)

Black Japanned 22/- per cwt.
Best Galvanized 35/- per cwt.

Dahlia and Rose Stakes.

1 in. x 1 in.
Painted Green,
Tarred Ends.
4 ft., 5/- doz. 5 ft., 6 3 doz. 6 ft., 7 6 doz.

Send for our LIST embracing Tools and Requisites of every kind for the Garden, &c., at greatly REDUCED PRICES



Deck Chairs.

Extra Strong Oak Frames.
Best Striped Canvas 7/- each
Best Green Rotproof 8 6 ..

Staniforths Best Garden Shears, fully warranted, T.S.

Sizes: 8 in. 7 6
9 in. 9/-
10 in. 10 6
per pair.

Border do., with 3 ft. handles, 11 6, 11 9, 12 6 per pair
Carriage 1/- pr. extra.

Wrought Iron Netting Stakes.

Painted Green.

1 1/2 ft., 2 ft., 2 1/2 ft., 3 ft., 3 1/2 ft., 4 ft., 5 ft., 6 ft. above ground.
9 3 10 6 11 6 14/- 17 6 21/- 26 - 34 - per doz.
F.O.R.

Hand Cultivators.

The Original BUCO and CAXTON with 4 ft. 6 in. handles, prongs of crucible cast steel. They get down into the soil and clean out weeds by the roots.

"Buco," 5 prong, 6 9; "Caxton," 3 prong, 4 6 each; "Midget," 3 prong, short handle, 2 6 each
(If ordered singly without other goods, carriage 1/- extra.)

ALL ABOVE F.O.R. EXCEPT AS OTHERWISE STATED.

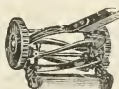
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Strong Galvanized Fencing Wire.

2 strands, 16 gauge, twisted. 1.760 yards to 1 cwt.
44 - for 1 cwt. 22 6 for 1/2 cwt.

The Famous "Sovereign" Lawn Mower.



Five blades, 7 in. extra strong driving wheel. Straight forward adjustment, close cutting. Packed in case free.

All parts kept in stock.

Sizes, 10 in., 42 6; 12 in. 45 -; 14 in. 47 6 each.

Saws of all kinds.

Special list sent on application. Farmers, Cross Cut, Pruning, Hand, &c.

Solid English Oak Fencing Posts.



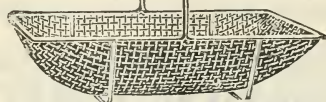
2 in x 1 1/2 in. Pointed ends.

5 ft., 10 6; 6 ft., 13 6; 7 ft., 14 9; 7 1/2 ft., 15 9 doz.

Fruit Gathering and Garden Tool Baskets.

Galvanized- strong and well made.

10 in. ... each 2 3 A Special Cheap Line
12 in. 2 6 Postage Paid.
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Useful for small Tools, Raffia, &c.

Wheelbarrow for General Use.

Extra Strong Construction.

Wrought Iron Frame and Wheel. Galvanized (after made), body bolted on, 28 in. x 20 in. at top of pan.

100 only offered at 35 - each. Cannot be repeated



Strong Oak Folding Stools.

16 in. high. 12 in. square seat.

They fold flat. SPECIAL LINE.
3 - each (worth 5 6), 7 for 20/-

Combination Wheel Cultivator.

Equipment: Plough, Scuffle or Weeding Hoe and Five Cultivator Teeth.

Complete
52 6



A turn of the wheel brings any tool into use. Gets the best out of your Garden. Works between your growing Crops

SOME EXTRACTS FROM OUR PRICE LIST

OUR EXHIBITION VARIETIES.

Hyacinths, Top size

Grand Maitre	}	In 35
La Victoire		Varieties,
Yellow Hammer		6/- per doz.
Gertrude		10/- per 100.
Baron van Thun		
Etc., etc., etc.		

1st Size, Assorted, 4/- per doz., 23/- per 100

2nd Size, for bedding, etc., 50/- for 12/-

Crocus, Mixed, from 4/- per 100

Iris, Spanish, from 5/- per 100

Iris, English, from 8/- per 100

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for
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Our Products
were
Awarded
9 Firsts in
July Shows.

Daffodils.

Empress, Princeps, Sir Watkin, Ornatus, Emperor, Lucifer, Van Sion, Jonquils, etc., etc., from 12/- per 100.

Tulips, Early.

La Reine, Crimson Brilliant, Yellow Prince, Proserpine, Grand Duc, Pink Beauty, etc., etc., from 1/6 per dozen.

Darwin Tulip.

Painted Lady, Pride of Haarlem, Clara Butt, Bartigon, La Tulip Noire, etc., etc., from 2/- per dozen.

You can inspect our Stocks before Buying

Begonias, Gloxinias, Fritillaria, Freesia, Spiræa, Amaryllis, Cyclamen, Chinodoxa, Colchicum, Lily of the Valley, Snowdrop, Iris, Bay and Box Trees, Aspidistras, Clivias, Azalea, etc.

TOMLINSON & LEENSLAG, Ltd., BULB CROWERS
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THE RELIABLE DUTCH BULB AND PLANT WAREHOUSE
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GLASS . . . Cut to dimensions, packed and delivered at your railway station. Also stocked in the regular box sizes

PAINT . . . "BROMAS" for general household and estate purposes
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"DEAUTITE" . Plastic Repair Compound for repairing leaky roofs and cracked glass, also for General Repair Work.

BOILERS . . . And heating plants, newest Types. Please ask for lists.

GREENHOUSES And GARDEN FRAMES.

Also TIMBER, SLATES, BRICKS, IRONMONGERY, and every Building Requisite

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WATER, ROCK, FLOWER AND BOG GARDENS
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Bulb Grower

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Offers at the following moderate prices, carriage and packing
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Kingdom:—

Hyacinths, top size, in red, rose, blue, lilac, white, and blush, in 25 different varieties, my selection ..	100	12
..	24	0 3 2
.. in very fine mixture, all colours ..	12	0 1 10
.. in miniature mix, also strong bulbs ..	7	6 1 0
Tulips, Single, in fine mixture ..	6	0 1 10
.. Double, in	7	0 0 11
.. Darwin, in	8	0 1 1
Crocus, top size, in 10 fine varieties ..	4	0 —
.. mixed all colours ..	3	0 0 5
Scilla Siberica, blue ..	5	0 0 8
Trumpet Narcissus, mixed ..	6	0 0 10
.. single ..	5	6 0 9
Snowdrops, single ..	4	0 0 6
Boytridius, blue (Grape Hyacinths) ..	3	0 0 5
Spanish Iris, in fine mixture ..	1	10 —

Excellent quality guaranteed. No connection with firms of
a similar name. Catalogue post free on application.
25 bulbs same name at 100 rate. 6 bulbs same name at doz. rate

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yellow and dark. Samples and prices
to Box 159, "IRISH GARDENING" OFFICE, 53
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ALL HAND MADE

Artistic Fern Pans and Bulb Bowls

State Quantities and Sizes required, and
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Wholesale Bulb Grower
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PREPARED HYACINTHS A SPECIALITY

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All sorts of Dutch Bulbs and Flower Roots in
excellent quality, at moderate prices.

Prices will gladly be sent on application.

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Fruit Tree Spraying Fluids

Assure the Progressive Fruit Grower of Clean
Healthy Trees in Branch, Twig and Bud, followed
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Pesticide.—For Blight, Black Spot, Mussel
Scale, &c., on Apple and other Fruit Trees.

Antipest.—For Red Spider, &c., on Goose-
berry Trees. Used by all the leading Sweet
Pea growers as a preventative and cure of
Streak.

Of all Nurserymen, Seedsmen, Florists, &c., or direct
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BURNS ON THE GROUND
NO APPARATUS REQUIRED

AUTO-SHREDS

Is CERTAIN DEATH to leaf-
mining Maggots, White Fly and
all Pests infesting Plants under
Glass. In boxes to fumigate 1,000
cubic feet, 1/-; 2,500 cubic feet,
1/9; 10,000 cubic feet (for ordi-
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(for tender foliaged Plants), 6/-
each. Obtained of all principal
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MANY NEW FRUITS FOR 1922

MANY THOUSANDS of Well Trained
Beautifully Rooted Apples, Pears,
Plums, Peaches, Nectarines,
Apricots, Cherries, Figs, Vines,
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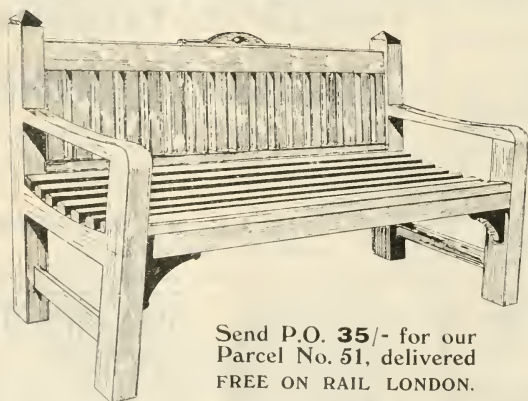
New fully Illustrated and Descriptive Cata-
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Pamphlet with valuable Cultural details, post free for 2d. stamp

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The "Homebilt" Garden Seat

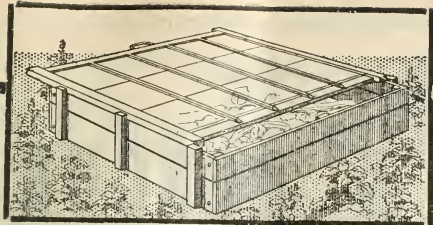


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FREE ON RAIL LONDON.

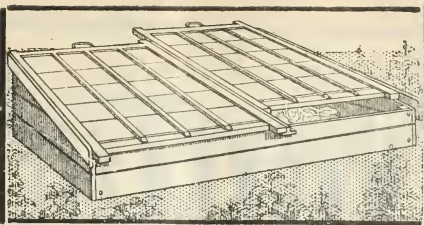
can be put together in ONE HOUR with the aid of a screw-driver and hammer. We supply a parcel of selected machined timber with every joint and component parts marked. Also a dimensioned sketch and full instructions for complete assembly. An amateur can make a "professional finish." This substantial and artistic Garden Seat is 5 ft. 6 in. long, and will seat four or five persons; when finished it

is worth £5 0 0, so YOUR labour will save you £3 5 0.

Woods Machinery Co., 2c Florence Road, New Cross, **London, S.E. 14.**



No. 80.—This is an Ideal Frame for Allotment Holders and Small-holders. Size, 4 ft. 9 in. by 3 ft. 9 in. Sides, 9 in. high. Painted two coats and glazed with 15 oz. glass. Reduced Price £2 17s. Frames also supplied in other styles and sizes.



No. H. 75.—The fronts are 11 in. high, backs 22 in. high. The frame is 1 in. thick, and the lights 1½ in., glazed with 15 oz. glass, and painted two coats. 1-light frame, 4 ft. by 6 ft. Reduced Price £5 8s.; 2-light frame, 8 ft. by 6 ft. Reduced Price £7 19s. 3-light frame, 12 ft. by 6 ft. Reduced Price £10 13s.

B. & P. Frames for Lasting Service

No matter where you go, you cannot equal a B. & P. Horticultural Frame, either in skilled workmanship or high-class material. These Frames are built to withstand year in and year out, the onslaughts of our climatic changes.

Every inch of each Frame is thoroughly examined by experts before being sold to the Public. As present stocks are limited, early orders are advised.

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Thoroughly
sustaining—
leading to
vigorous,
healthy, and
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Our Manures are the direct result of many years' practical experience in all branches of Horticulture and after over 40 years on the market, still hold first place in the estimation of Horticulturists all over the world for quality and result.

Vine, Plant and Vegetable Manure unrivalled for all garden crops:—1 cwt. 32/-; 56 lbs. 17/-; 28 lbs. 9/6; 14 lbs. 5/6; 7 lbs. 3/-; tins, 1/6.

Special Top-dressing Manure, an excellent stimulant:—56 lbs. 17/-; 28 lbs. 9/6; 14 lbs. 5/6; 7 lbs. 3/-.

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ON the farms of Bees Ltd. in North Wales, there are now growing about half a million Roses. These have been produced by British Labour in the Country in which they are to grow. Bees' Roses are guaranteed and tested; they are true to every claim made for them.

In the interests of their customers, Bees Ltd. publish *The Bony Bee*, a Monthly Journal. The October issue contains a special article by the Secretary of the National Rose Society—"The Progress of the Rose." Therein he gives the little known fact that in 1900, Catalogues listed only 23 varieties of H. T. Roses, whereas over 350 varieties are listed to-day. This issue is also profusely illustrated, and contains four pages of natural photo-colour illustrations of Roses, etc.

The September issue deals with Hardy Plants. Bees' "Adapto" Border is thoroughly described and illustrated. It has been specially planned to adapt itself to borders of any length and width.

The August issue tells you how to grow bulbs almost anywhere with the maximum of success. Like the other issues it contains many natural photo-colour illustrations.

Copies of any or all these three issues will be sent on receipt of 3d. stamps.

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Descriptive Catalogue, Guide to Selection and Pruning, now ready

J. H. PEMBERTON, Havering-atte-Bower
ESSEX.

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175B MILL ST.
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HOTHOUSE BUILDERS & HEATING ENGINEERS

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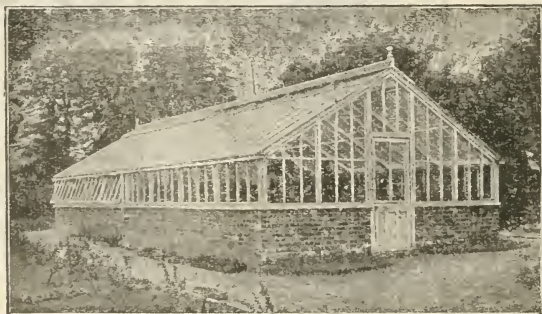
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To Produce the ever popular easily grown
COOL, INTERMEDIATE & WARM HOUSE HYBRIDS
Special quotations given for large or small quantities

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Osmunda and other Fibres

OF THE FINEST QUALITY

"Phytophiline" & "Vitiphiline" Insecticides

The most effective and non-poisonous preparations for the destruction of all plant pests

CHARLESWORTH & CO., Haywards Heath, SUSSEX

BULBS For Cultivation in Fibre



Hyacinths.

	Per doz.
Dutch Roman Hyacinths	1 9
Early White Roman	4/- to 4 6
Hyacinths	

Narcissus and Daffodils.

Barrii Conspicuus	1 6
Emperor	2 3
Golden Spur	2 3
Sir Watkin	2 6
Double Daffodils	2 3
Poetaz Elvira	2 6
— Aspasia	2 6
Grand Monarque	2 3
Paper White	2 3

And all other Bulbs.

Special Fibre Compost, per peck, 1 9;
per bushel, 5/-

Bowls 3 9 to 6/-

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SEND FOR OUR BOOK OF BULBS.

The Best of the Alliums.

To many the word Allium means Onions, Leeks, or Garlic, and something to be avoided, except in the Kitchen Garden or the Kitchen. There are, however, many interesting and pretty species of Allium of value for the Rock Garden, and which have with us no economic value, so far as is at present known.

The Alliums belong to the Lily family, and are fairly characteristic in general appearance, mostly bulbous, many having slender, grass-like, hollow leaves; in others, they are flat and expanded, and in some triangular. The flowers are produced in umbels, borne at the end of a common stalk, more or less long and stout, according to the species. The flowers are six-parted, and the seeds small, black, and angular, unlike the flat, winged seeds of the Lily.

Cultivation presents no difficulty, ordinary well-drained soil and a sunny position suiting practically all. Propagation may be effected by seeds or separation of the bulbs.

Among those of ornamental value, the following may be recommended:—

Allium caruleum, from Siberia, with angular leaves, from 6 to 9 inches long, and carrying umbels of deep-blue flowers on stems some 12 to 15 inches high.

A. cyaneum, a Chinese species, forming tufts of fine grass-like leaves, from among which arise the flower-stems, about 6 inches high, carrying umbels of bright-blue flowers.

A. kansuense, also from China, has lately come into gardens, though previously known for a good many years. It is one of the grassy-leaved species, more vigorous than the last-named, and bearing in summer heads of blue flowers.

A. karataviense hails from Turkestan, and, unlike the foregoing, has broad, flat, expanded leaves, of a glaucous hue; the flowers are white, produced in large, dense umbels on scapes some 6 or 8 inches high.

A. Moly, a Southern European species, is one of the best known, its bright yellow flowers being familiar in many gardens in early summer. The leaves are broadly lance-shaped, and the flower-stems reach a height of 12 inches or over.

A. narcissiflorum, from south-west Europe, is an attractive Rock Garden plant, with drooping clusters of rosy purple flowers and lance-shaped leaves, shorter than the flower scapes.

A. neapolitanum is an attractive white-flowered species, about 15 inches or rather more in height, and producing strap-shaped leaves around the flower stems.

A. astroscinkium, from Turkestan, is remarkable in having but few narrow, flat, glaucous leaves, surmounted in summer by umbels of rose-coloured flowers, on stems some 9 to 12 inches high.

A. roseum, from the Mediterranean region, is attractive in its umbels of rose pink flowers, on slender stems, some 15 inches in height. The narrow, strap-shaped leaves are shorter than the flower stems.

A. scuevrens var. glaucum is more curious than

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BULBS for the Green-house, and

BULBS for Beds and Borders in the open ground

Choice HYACINTHS, Showy TULIPS,
Chaste LILIES, Gorgeous GLADIOLI,
Modest SNOWDROPS.

"DAFFODILS that come before the
Swallows dare and take the winds of
March with beauty."

ANEMONES, CROCUS, IRIS, CHIONODOXA
and many other surpassingly beautiful species.

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Bentley's Daisy Killer (LAWN SAND).

Permanently eradicates daisies, moss, and every form of weed on Lawns of all descriptions.

REDUCED PRICES.

1 ton, £24 10; 10 cwt., £12 10; 5 cwt., £6 7 6; 1 cwt., £1 7 6; 56 lbs, 14 9; 28 lbs, 8 3; 14 lbs., 5 3. Tins 1 6 each.

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A highly effective and most popular non-poisonous Winter Wash for fruit and forest trees of every kind

In tins sufficient for 22 gallons of wash.

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1 to 5 tins, 3/3 each; 8 tins, 3/1 each; 12 tins, 2/11 each; 20 tins, 2/9 each; 40 tins, 2/7 each.

Carriage paid on 20 - Orders and upwards.

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Hyacinths, single, first size, named, in 25 leading sorts, red, white and blue varieties, equal quantities my selection	3 6	23 0
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Crocus, first size, in the finest mixture	0 6	3 0
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Chionodoxa lucilæ (Glory of the Snow), blue	0 8	4 6
Iris, Spanish, mixed	—	1 8
Darwin Tulips, mixed	0 11	8 0
Single Narcissus, mixed	—	4 0
Double Narcissus, mixed	—	6 0
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beautiful, producing short, curved glaucous leaves, and spreading by means of rhizomes, which form bulbs at intervals; the flowers are dull pink.

A. triquetrum has white flowers, in rather drooping umbels, borne on erect, triangular stems, 15 to 18 inches high; while the leaves, too, are triangular, green, and in some situations are long and comparatively broad. This pretty species may be naturalised in grass or under trees with good effect.

Allium gummense, from China, is one of the small, grassy-leaved species, of the same habit as *A. cyaneum*, but bearing umbels of pale-pink flowers.

Newer species, not yet well known in gardens, are *Allium Fureri* and *A. Pardoni*, but they appear likely to be quite good and useful for the Rock Garden. Many other taller species, such as the handsome *A. albo-pilosum*, are in cultivation, but the majority of those mentioned in the above notes may be grown on the Rock Garden or in narrow borders in sunny positions.

B., DUBLIN.

Catalogues.

MESSRS. WILLIAM POWER & CO., WATERFORD, have favoured us with a copy of their current Bulb Catalogue. As with all this well-known Firm's productions it is excellently got up, printed on fine paper and beautifully illustrated. A very full

selection of all the most popular bulbs and tuberous plants are offered at very reasonable prices, and we have no hesitation in advising our readers to secure a copy before making up their bulb orders. For a very modest outlay a charming spring and summer display can be assured.

Mr. G. N. SMITH has kindly sent us a copy of the latest Newry Catalogue of Hardy Bulbs. In addition to admirable selections of Daffodils, Cottage and Darwin Tulips and other popular bulbs the Daisy Hill catalogues are notable for the number of species or wild types of various kinds which they contain. These are, in many instances, of greater beauty than the garden hybrids, and deserve wider cultivation. Many of the Alliums, Anemones, Brodiaeas, Crocuses, Irises, Lilies, etc., are of great beauty, and worthy of our attention.

MESSRS. W. DRUMMOND & SONS' Bulb Catalogue gives many useful cultural hints for growing bulbs in pots and bowls, as well as in the garden. Very full selections are given of early and late flowering Tulips and also the stately "Darwins." Daffodils and Narcissi are offered in useful variety, as well as Crocuses, Gladioli, Irises, Lilies, etc. Spring bedding plants, herbaceous plants, seeds for autumn sowing, and various sundries make up an interesting catalogue.

MESSRS. SUTTON have been good enough to send us their catalogue of "Bulbs for 1921," and we note

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Now is the time to plant bedding Hyacinths. Please compare my bulbs with those of other firms and you will be more than satisfied.

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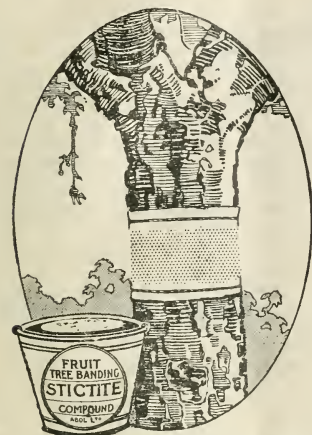
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that as usual they have made extensive provision for supplying bulbs, corns, tubers, etc., in great variety and in large quantity. Bulbs for potting up now for an early indoor display are a feature, while, as noted, ample provision is made for others flowering in the open from February on to May. Many interesting new varieties are included, and the classification is such that selection of individual requirements is made easy. The illustrations are numerous and highly attractive. A copy may be obtained from the Royal Seed establishment, Reading.

MESSRS. WEBB & SONS, the Royal Seed Establishment, Wordsley, Stourbridge, are well known in gardening circles, and, as may be expected, their Bulb Catalogue accords with the Firm's reputation for doing things well. Excellently produced on excellent paper it is also finely illustrated. The list of contents on the front page facilitates rapid reference to the particular items required. Hyacinths in colours and collections are a feature, while Daffodils in all the popular sections are strongly represented; also Tulips, early and late, and all the popular bulbs, tubers and corns required for a spring and summer display. A page is devoted to the cultivation of "Bulbs in Fibre", and this is followed by an excellent list of Herbaceous and Alpine plants, Climbing Shrubs and various sundries.

MESSRS. JAMES CARTER & Co., Raynes Park, London, S.W., need no introduction to experienced gardeners. Their successes in many departments of Agriculture and Horticulture have earned them a place of distinction in the Nursery and Seed Trade. Their current "Bulb Catalogue" now to hand is symbolic of their first-rate manner of doing things. Attractively covered it contains an excellent selection

of the finest varieties of bulbs for decorative gardening. The illustrations are numerous and instructive. In addition to the comprehensive lists of beautiful bulbous plants several pages are devoted to "Carter's Tested Grass Seeds," which, as is well known, are in good repute. Various illustrations of well-known sports grounds are given, showing the fine results from Carter's Grass Seeds. A short *résumé* on the Treatment of Lawns contains much useful information.

From the great bulb growing country of Holland we have received Messrs. Anthony C. Van Der Schoot's catalogue. This old-established firm has its nursery at Hillegom, and the list to hand shows how extensive their cultures are. Comprehensive lists of Tulips, Hyacinths, Daffodils, Crocuses, Anemones, Irises, Muscaris, Gladioli, etc., include the finest varieties and strains. Begonias are extensively grown in fields. The illustrations are excellent, portraying the system of field culture followed in Holland. Readers who obtain this catalogue will be reminded of the series of articles which appeared in IRISH GARDENING last year from our correspondent, Mr. C. J. Van den Berg.

MESSRS. EDMONDSON BROTHERS, of Dame Street, Dublin, have reached the 70th issue of their catalogue of Bulbs and Flower Roots, a record that bears testimony to the quality of their goods. The current list is admirably compiled to meet the requirements of most gardens. All that is required in the way of bulbs, tubers and other early flowering plants is offered in good variety. Tulips, Daffodils, Hyacinths, Anemones, Crocuses, Lilies, Irises, and many others can be obtained, so that the Firm's numerous clients may stock their gardens with abundance of spring and early summer flowers.

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La Reine, Crimson Brilliant, Yellow Prince, Proserpine, Grand Duc, Pink Beauty, etc., etc., from 1/6 per dozen.

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Painted Lady, Pride of Haarlem, Clara Butt, Bartigon, La Tulip Noire, etc., etc., from 2/- per dozen.

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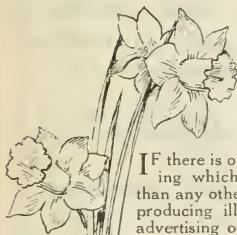
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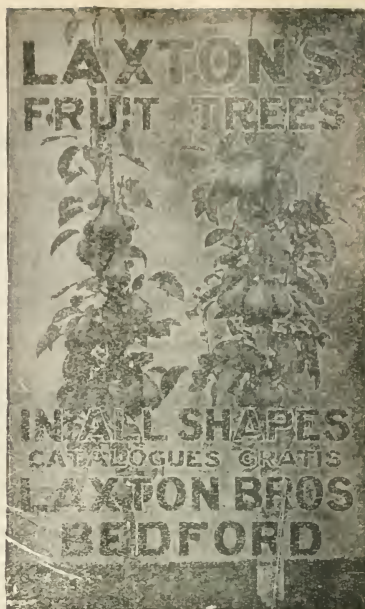
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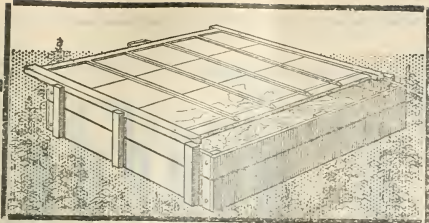
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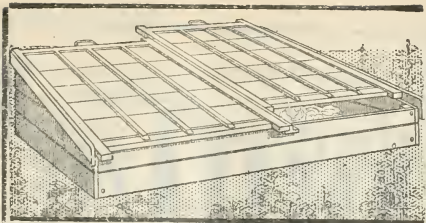
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The September issue deals with Hardy Plants. Bees' "Adapto" Border is thoroughly described and illustrated. It has been specially planned to adapt itself to borders of any length and width.

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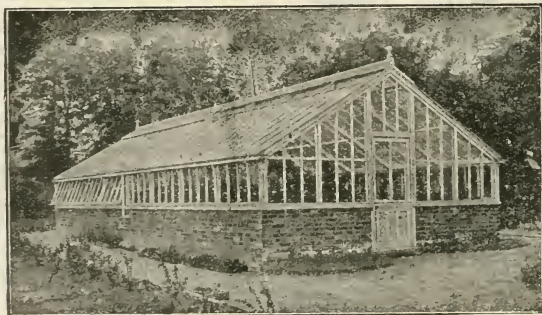
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The Agricultural Wages Board for Ireland.

THE final meeting of this Board was held on the 27th of September, and with the placing of the Corn Production Acts (Repeal) Bill on the statute book the functions of the Board now come to an end. A report of the operations of the Board from September, 1917, to September, 1921, has now been published. During this period the Board's Inspectors investigated the cases of more than 15,700 workmen, and recovered arrears of wages exceeding £40,000.

No less than nine important Orders were made by the Board during its existence dealing with minimum rates of wages for employees of different ages, defining and valuing benefits or advantages, &c. The amount of beneficial work performed by the Board was enormous, and its value is greatly enhanced by the fact that it was achieved through the joint labours of workmen's representatives together with representatives of the farmers' unions and Government officials, who all worked together with praiseworthy tact, skill and patience through a series of most trying years. For further information we refer our readers to the Report.

U. S. Department of Agriculture Bureau of Plant Industry.

THE Inventory of Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction from October 1st to December 31st, 1916, which we have lately seen contains brief descriptive notes of over 500 plants, including trees, shrubs, and herbaceous plants. The Department's officials collect seeds, plants, and cuttings from all over the world, and are indefatigable in their efforts to introduce to the United States plants likely to be of use or ornament. The current issue contains notes on many Chinese trees and shrubs, a fair portion of which are now in cultivation in this country. A number of tropical fruits which can be grown in the warmer States are described and illustrated, and others are noted for trial. An interesting and useful publication betokening the energy and enthusiasm of the U. S. Department of Agriculture.

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Catalogues.

MESSRS. FRANK CANT & Co., Braiswick Rose Gardens, Colchester, have issued their new Catalogue of Roses for the current season. In it will be found all the very finest Roses in existence, and customers will have no difficulty in making a selection for any and every position. All sections are listed separately, and in every section the best old and new varieties are included. Useful cultural directions are given. This well-known firm specialises in Roses, and devote their time exclusively to the production of the finest plants that can be produced.

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Hyacinths, single, first size, named, in 25 leading sorts, red, white and blue varieties, equal quantities my selection	3 6	23 0
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Crocus, first size, in the finest mixture	0 6	3 0
Crocus, second size, in the finest mixture	0 4	1 8
Chionodoxa lucilææ (Glory of the Snow), blue	0 8	4 6
Iris, Spanish, mixed	—	1 8
Darwin Tulips, mixed	0 11	8 0
Single Narcissus, mixed	—	4 0
Double Narcissus, mixed	—	6 0
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„ Single, H. Von Son, Yellow	—	4 6
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The Busy Bee.

THE October number of this novel publication is largely devoted to Roses and their cultivation. Many beautiful coloured illustrations are shown of new roses, fruits, shrubs, &c. Excellent articles are included on roses and pests of the rose. There are also columns devoted to Poultry and Bees, and a children's page. Roses, fruit trees, shrubs, and many other articles are offered at usual prices. Published by Bees, Ltd., 175-181 Mill Street, Liverpool.

A New Cotoneaster.

ONE of the newest, and certainly one of the most distinct and noteworthy, of the Cotoneasters recently introduced is the variegated form of *C. horizontalis*, for which we have to thank a well-known French nursery. This variety has all the admirable characteristics of the type, but the foliage is variegated with white, every leaf being so margined or blotched that the entire plant has a silvery or frosted appearance. When in flower this form may not be so attractive as the original, but that is a small matter since it is the berries and autumn colouring of this Cotoneaster which are its most attractive features. Here *C. h. variegata* excels, for its foliage proves a most effective setting for the crimson-scarlet fruits, and the beautiful bronze, purple, and blood-red hues of the dying leaves are much more intense than they are in those of the type. When it becomes known, *C. h. variegata* will undoubtedly attract wide popularity. For rock gardens in which soft shades of grey to lavender are desired it should be indispensable.

A. T. JOHNSON.

The Californian Tree Poppy.

THE true Tree Poppy of California is not *Rouneya Coulteri*, but *Denrohaecoon rigidum*, a small tree of some 8 to 10 feet in height, with narrow, grey-green, willow-like leaves borne on long arching wands, which often rise from the base and attain their full stature in a single season. The flowers of this species are a bright golden yellow, about 2 inches across, and opening flat. They are fragrant, and, unlike so many others of its kind, they will often last for several days. *D. rigidum* is, of course, a sun lover, rejoicing in a warm, well-drained soil. Though not quite hardy, it will stand a good deal of frost without the slightest injury, which is explained by the fact that in its own country it is a native of the mountains where frost and sun are by no means unknown. But in our bleak districts it will be well to give *D. rigidum* the protection of a wall. It needs no special attention as regards manure, rather a poor, stony soil being preferable, and, as to pruning, it is not necessary to do more than cut-out a few of the old and worn-out branches in spring. This is a subject well worthy of the attention of all who have not tried it, and being easily propagated by cuttings it is not expensive.

A. T. JOHNSON.

Bulletin of the New York Botanical Gardens

This publication contains the reports of the Director and his assistants for the year 1920.

As usual, it records the continued advance of this famous garden in the study of Botany in all its branches and the practice of Horticulture and Arboriculture in its best and most popular phases.

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- 24 Hyacinths, 1st Size in 6 Named Varieties
- 36 Early Tulips Assorted Colours
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- 24 Daffodil Mixed
- 24 Roman Hyacinths
- 24 Grape Hyacinths
- 50 Spanish Iris
- 50 English Iris

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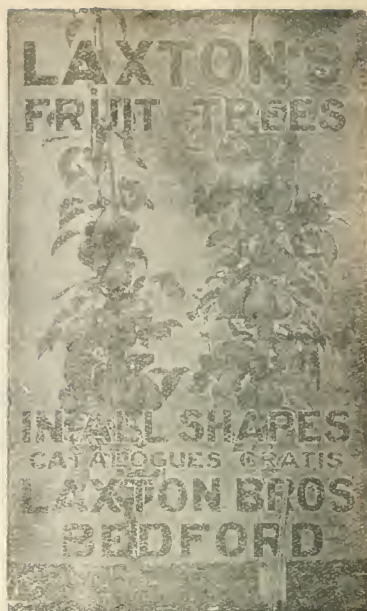
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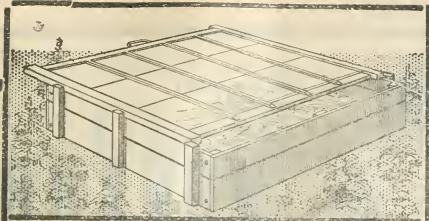
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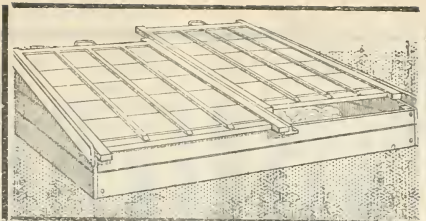
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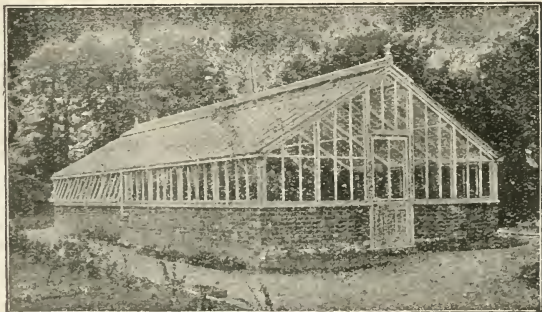
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The Royal Horticultural and Arboricultural Society of Ireland.

The monthly meeting of the Council was held at the offices, 5 Molesworth Street, Dublin, on the 11th ult., Mr. G. M. Ross presiding. A balance sheet of the Winter Show was submitted, approved, and accounts, including the prize list, ordered for payment.

Arrangements were made for holding the 92nd Annual General Meeting at the offices, at 3.30 p.m., Friday, 16th inst. A vote of thanks was passed to Mr. B. H. Barton, D.L., for a fine display of Felton's Favourite, a pure white Chrysanthemum, set up by Mr. F. Streeter, from Straffan Gardens, Co. Kildare, also to Mr. F. V. Westby, for specimens of the Yellow Banksian Rose, in bloom, from Roebuck Castle, Dundrum. Mrs. Bramston Newman, Ounavarra, Lucan, proposed by Lord Frederick Fitzgerald, was elected a member of the Society.

Bray and District Horticultural Society.

The annual general meeting of the Bray and District Horticultural Society was held on the 9th inst., at Brayfort, Bray, Brig-General Cockburn in the chair.

The audited accounts for 1921 were found satisfactory, and were passed unanimously. The Committee were re-elected for 1922. A vote of thanks was tendered to the President, Sir Stanley Cochrane, for the very generous manner in which he supports the society, also to the ladies who so ably assisted

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at the Annual Show, and to the judges and stewards who very kindly officiated.

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The Scholarships entitle the holders to free instruction at the Royal College of Science, free board and residence at the Albert Agricultural College (or a maintenance allowance in lieu thereof), and third class fare for one journey to and from their homes in each session.

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Catalogues.

MESSRS. WATSON & SONS, LTD., Killiney Nurseries, Killiney, Co. Dublin, have kindly sent us a set of their current catalogues of Roses, Fruit Trees and Ornamental Trees and Shrubs. These are published separately, and each contains an excellent collection of the finest varieties under the several headings. Messrs. Watson make a special study of Roses, Fruit Trees and ornamental subjects, and their large and increasing business is a testimony to the excellence of the goods they supply. Our readers could not do better than send for a set of the catalogues mentioned.

Bulb Gardening.*

THIS is a comprehensive work by the author of "Rose Gardening" and "Town Gardening," and is uniform in production with them, being excellently bound and well printed on good paper. All kinds of plants, popularly called bulbous, are included, even such diverse subjects as Hyacinths

and Kniphofias, Crocuses and Begonias; the author, however, explains the reason for this satisfactorily.

The work is divided into three parts, thus: Part I., Hardy Bulbs; Part II., Glass-house Bulbs; Part III., Half-hardy Bulbs—the three parts comprising twenty chapters.

On the whole, the cultural recommendations are good, and might be taken as a guide by the inexperienced, but the details for the preparation of beds for planting are often unnecessarily complicated and elaborate; also, we believe, the recommendation frequently given of supplying manure either as a mulch or in the soil should not be taken too literally, since bulbous plants are very susceptible in this connection, and a very complete knowledge of local soil conditions is necessary to avoid disaster. We are told to pot up Hyacinths in November and December, but most gardeners prefer to have this done two months earlier, and we cannot see the necessity for mulching hyacinth beds with cow manure in February.

We dissent from the recommendation to plant garden varieties of Tulips and Daffodils on the rock garden; the choice species of both may fittingly find a place there, but the florist's varieties are not in good taste.

Mistakes in spelling are numerous. For instance, *Tulipa Sprengeri* is spelt with an *h* before the first *r*, and *T. macrospila* ends with *d* instead of *a*, and *T. Kolpakowskiana* wants the *l*. *Iris albiensis* is repeatedly spelt *l. albiensis*, and the number of times a capital is used instead of the lower case are too numerous to mention. We would advise the author, when preparing a new edition, to keep a copy of the Kew Handlist of Herbaceous Plants on her desk. Among Irises recommended for cultivation is *I. alata*, notoriously one of the most difficult to bloom.

Native Orchids are recommended for introduction to the garden by removing them from their native places and transplanting; we would like to have a list of the author's successes in this connection, for it is by no means successful in every case.

Despite these few criticisms, we feel sure "Bulb Gardening" will be of considerable service to many enthusiasts with little practical knowledge of the enormous number of bulbous plants available, and as a work of reference it should find a place in the library of every amateur gardener.

There are coloured drawings of Narcissi, Tulips, Fhalias, and Gladioli, and numerous other line drawings.

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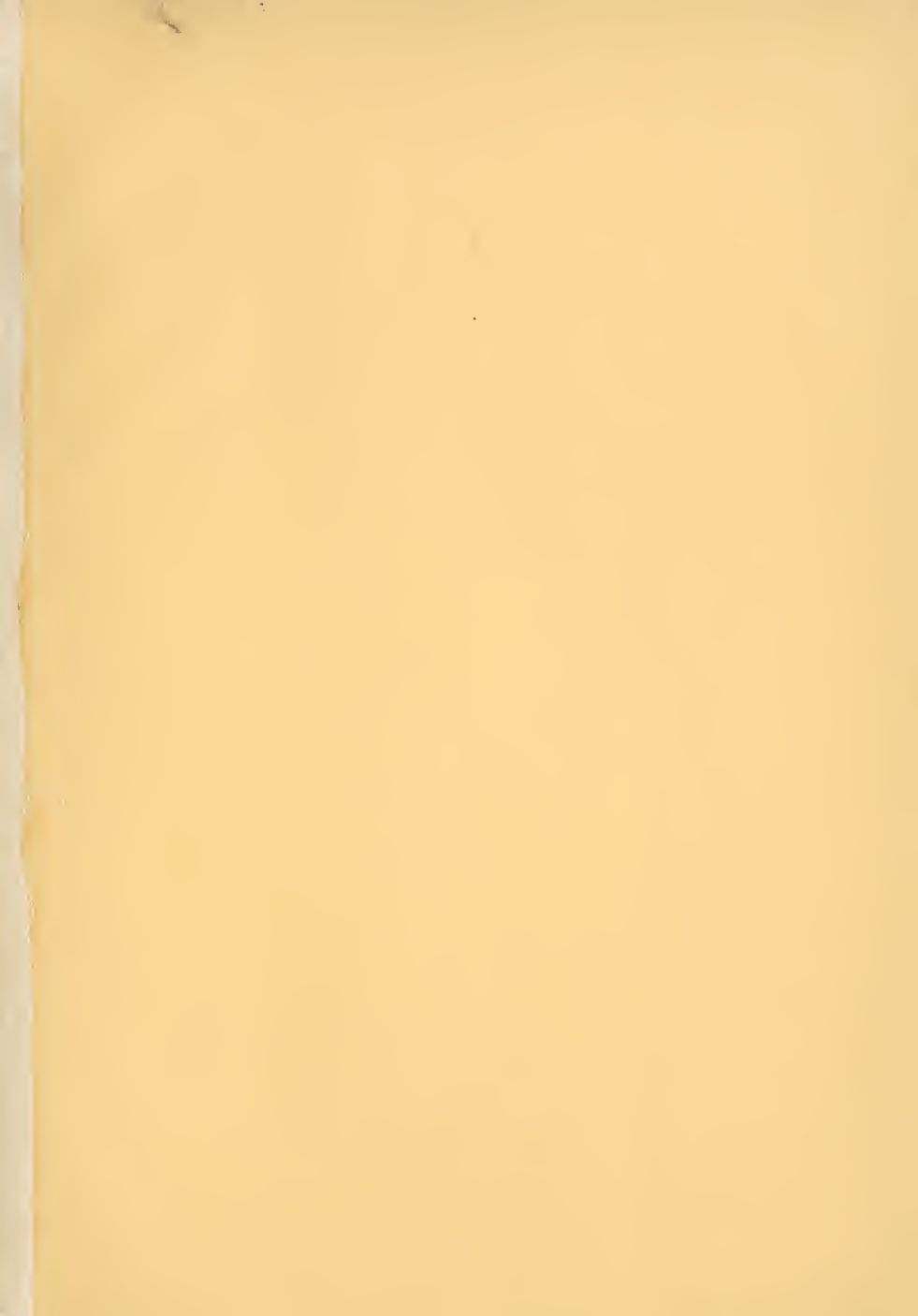
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